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In The Supreme Court of the United States

JOHN A. RAPANOS, *et al.*,

Petitioners,

v.

UNITED STATES,

Respondent.

JUNE CARABELL, *et al.*,

Petitioners,

v.

UNITED STATES ARMY CORPS OF ENGINEERS, *et al.*,

Respondents.

ON WRITS OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

BRIEF FOR AMICI CURIAE THE CHESAPEAKE BAY FOUNDATION IN SUPPORT OF RESPONDENTS WITH APPENDIX

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INTEREST OF AMICUS CURIAE[1]

The Chesapeake Bay Foundation (CBF) is the only independent 501(c)(3) organization dedicated solely to restoring and protecting the Bay and its tributary rivers. Since 1967, our goal has been to improve water quality by reducing pollution. Our motto is *Save the Bay*.

Pollution is choking the Bay and many of its tributary rivers. In the summer of 2005, 41 percent of the volume of the Bay was considered a "dead zone," an area with insufficient oxygen to support marine life. The Chesapeake Bay Program, an arm of the U.S. Environmental Protection Agency (EPA), recently declared that the size of this area is the largest on record. This anoxic zone is caused in large part by excessive nitrogen and phosphorous discharges to the Bay and its tributaries. CBF strives to reduce this pollution from, among other sources, sewage treatment facilities, other industrial sources, agricultural runoff, and urban and suburban stormwater.

CBF's efforts are supported by its 140,000 members, volunteers, concerned citizens, advocates and staff. CBF's staff of 170 includes scientists, policy experts, attorneys, educators, and grassroots organizers pursues our goal through environmental advocacy, litigation, environmental education, strategic communications, and habitat restoration throughout the Bay watershed. We inform and engage the public, the private sector, and government officials to request that the necessary legislative and regulatory decisions and adequate public and private investments be made to save the Bay.

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[1] Pursuant to S. Ct. R. 37.3(a) and 37.6, the undersigned represents that (1) all parties consented to the filing of this brief, (2) no counsel for any party authored this brief in whole or in part, and (3) no person or entity other than the above-named amicus curiae and its counsel made a monetary contribution to the preparation or submission of this brief.

SUMMARY OF ARGUMENT

The purpose of this brief is to impress upon the Court that a decision to strip Clean Water Act ("CWA") safeguards from non-navigable tributaries and their adjacent wetlands will cause great harm to the Chesapeake Bay, its watershed, its aquatic ecosystem, and its people. The Chesapeake Bay is North America's largest and most biologically diverse estuary. "For more than 300 years, the Bay and its tributaries have sustained the region's economy and defined its traditions and culture."[2]

The Chesapeake Bay receives fully half of its water from an intricate network of 110,000 streams and 1.7 million wetlands most of which are non-navigable tributaries and non-tidal wetlands that drain or "tend to drain" to those tributaries, very much like the wetlands and tributaries at issue in these cases. This brief will demonstrate that the headwater streams and wetlands, and other non-navigable tributaries and associated wetlands, of the 64,000 square mile Chesapeake Bay watershed are indeed "inseparably bound up" with the Susquehanna, the Potomac, the James, and the other large navigable rivers that flow to the Bay. This intricate hydrological network cleanses the surface water, recharges the groundwater, moderates the flood flows, and provides the aquatic habitat on which the ecological and economic life of the Chesapeake Bay and its watershed depends. The health of the Chesapeake Bay truly does begin at its source.

The states of Maryland, Pennsylvania, and Virginia, the District of Columbia and the United States recognized in the 1970s that they could not solve the dire problems facing the Chesapeake Bay alone or in

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[2] Chesapeake 2000 Agreement, Preamble, at Appendix A. The signatories to the Chesapeake 2000 Agreement are Maryland, Virginia, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission (representing the Maryland, Pennsylvania, and Virginia state legislatures), and the EPA, representing the United States.

piecemeal fashion. They entered into an historic compact, the Chesapeake Agreement of 1983,[3] and an expanded agreement in 1987.[4] In 2000, Congress and the state and federal Chesapeake Bay partners strengthened their commitment to restoring the Bay ecosystem with congressional action and execution of the Chesapeake 2000 Agreement.

The Chesapeake Bay partnership exemplifies the concept of cooperative federalism – a cornerstone of the CWA. The Bay partners, through the Chesapeake Bay Agreements, have set ambitious requirements to improve the water quality and restore the living resources of the Chesapeake Bay and its watershed. They recognize, however, that without CWA jurisdiction over non-navigable tributaries and adjacent wetlands, the Bay partners cannot achieve the stricter water quality standards and waste load allocations necessary to "save the Bay."

In *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985) (*Riverside Bayview*), the Court recognized that Congress intended to regulate wetlands "inseparably bound up with the waters of the United States," and upheld the Army Corps of Engineers' exercise of CWA jurisdiction over adjacent wetlands on that basis. The Court approved this *Riverside Bayview* adjacency holding in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (*SWANCC*), while narrowly holding that CWA jurisdiction did not extend to certain truly isolated intrastate ponds. The *Riverside Bayview* holding applies with equal force in this case, where the wetlands at issue drain or "tend to drain" to non-navigable tributaries that are hydrologically and ecologically bound up with downstream navigable waters. As in *Riverside Bayview*,

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[3] 1983 Chesapeake Bay Agreement, Appendix B.

[4] Chesapeake Bay Agreement of 1987, Appendix C; http://www.chesapeakebay.net/pubs/1987ChesapeakeBayAgreement.pdf (last visited January 12, 2006).

the Corps of Engineers properly asserted jurisdiction over the wetlands at issue in these cases.

The Chesapeake Bay ecosystem and the Chesapeake Bay Agreement demonstrate that the extensive networks of non-navigable tributaries and the wetlands that drain to them located upstream in watersheds are inseparably bound up with downstream navigable waters, and that the CWA goal of maintaining and restoring the physical, chemical, and biological integrity of the Nation's waters cannot be met unless these waters remain subject to the Act. For these reasons, Amicus Curiae the Chesapeake Bay Foundation respectfully requests that the Court affirm each of the decisions of the Sixth Circuit.

ARGUMENT

I. THE ECOLOGICAL AND ECONOMIC HEALTH OF THE CHESAPEAKE BAY IS "INSEPARABLY BOUND UP" WITH THE WATERSHED'S NON-NAVIGABLE TRIBUTARIES AND ADJACENT WETLANDS.

A. The Chesapeake Bay is the largest and most biologically diverse estuary in North America.

The Chesapeake Bay, a national treasure, is the largest and most biologically diverse estuary in North America.[5] It is home to more than 3,600 species of unique animals, fish, and plants including bald eagles, blue crabs, menhaden, striped bass (rockfish), osprey, oysters, and the American lotus. For more than three centuries, "the Bay and its tributaries have sustained the region's economy and defined its traditions and culture."[6]

The Bay proper is approximately 200 miles long, stretching from Havre de Grace, Maryland to Norfolk,

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[5] Chesapeake 2000 Agreement, Preamble, at Appendix A.

[6] *Id.*

Virginia. Including its tidal tributaries, the Bay has approximately 11,684 miles of shoreline. The Chesapeake Bay watershed encompasses 64,000 square miles and some or all of six states and the District of Columbia. Fifty major tributaries traverse the Appalachian, Piedmont and Atlantic Coastal Plain before flowing into the Chesapeake Bay.[7]

B. The Chesapeake Bay Watershed Is Comprised Largely of Non-navigable Streams and Adjacent Wetlands.

1. Most of the Bay watershed's stream miles are non-navigable and many flow intermittently.

One hundred and eleven thousand (111,000) miles creeks, streams, and rivers throughout the Bay watershed converge into fifty major tributaries that send water to the Chesapeake Bay.[8] The Bay's nine largest tributaries contribute 93% of the total fresh water to Chesapeake Bay,[9] about half of the Bay's total water volume.[10] The Susquehanna River is the Bay's largest tributary and contributes more than one half of the freshwater that enters the Bay.[11] The Susquehanna and its tributaries originate as small headwater streams and wetlands in New York, drain Central Pennsylvania, and

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[7] U.S. Environmental Protection Agency (EPA), *Chesapeake Bay: Introduction to an Ecosystem*, EPA 903-R-04-003 (July 2004) (*Introduction to an Ecosystem)* at http://www.chesapeakebay.net/pubs/ecosystem.pdf (last visited 1/9/06); *see*, Chesapeake Bay Watershed Map at Appendix D.

[8] Chesapeake Bay Watershed Partners Agreement (2001) at http://www.chesapeakebay.net/pubs/waterqualitycriteria/DOC_wq_finalmou.pdf (last visited January 7, 2006), Appendix D; *see also*, *Introduction to an Ecosystem* at 1, 5.

[9] U.S. Geological Survey, *Chesapeake Bay: Measuring Pollution Reduction*, Fact Sheet FS-055-95, at http://water.usgs.gov/wid/html/chesbay.html (last visited January 6, 2006).

[10] *Introduction to an Ecosystem* at 5.

[11] *Id.*

empty into the Bay in Maryland. The Potomac and James Rivers are the next two largest tributary systems flowing to the Chesapeake Bay.[12]

Each of these major Bay tributaries begins at their headwaters, far upstream of the navigable-in-fact rivers they will become. Headwaters are "the dendritic system of wetlands, swales and small streams that make up the beginnings of most watersheds."[13] Headwater streams[14] comprise the majority of streams and waters in a watershed, and they play the most important role within the watershed in improving water quality by filtering runoff, sediment, nutrients, and contaminants before they move further downstream.[15]

EPA estimates that first-order headwater streams, alone, comprise over 50% of the over 200,000 miles of

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[12] *Id.*; *See,* Chesapeake Bay Watershed Map, Appendix D. *See also,* Chesapeake Bay Program Powerpoint Presentation at www.chesapeakebay.net/pubs/waterqualitycriteria/DOC-nspresentation.ppt at slides 54, 55.

[13] Consolidated EPA Region III Response to the Advanced Notice of Proposed Rulemaking on the Clean Water Act Regulatory Definition of "Waters of the United States" (2003) (EPA Region III ANPRM Response) at 3.

[14] Headwater streams are typically defined as first and second order streams. Higher order streams are formed by the confluence of lower order tributary streams. *See,* Meyer, J. L. et al. *Where Rivers Are Born: The Scientific Imperative for Defending Small Streams and Wetlands,* American Rivers and Sierra Club, publishers (September 2003) (*Where Rivers Are Born*) at 10-11. http://www.americanrivers.org/site/DocServer/WhereRiversAreBorn1.pdf?docID=182 (last visited January 8, 2006); *see* Appendix E for stream photo.

[15] EPA Region III ANPRM Response at Appendix E, Literature Review: Extent and Function of Headwater Streams, EPA, Wheeling West Virginia (February 2003) at 3-9; *see also,* EPA letter to Jeanne Christie, dated January 9, 2005 (sent January 9, 2006) (EPA letter) *in* Amicus Curiae Brief of Association of State Wetland Managers, et al (ASWM Br.), Appendix; *see also,* M.M. Brinson, *Changes in the Functioning of Wetlands Along Environmental Gradients,* 13 (2) Wetlands 65 (June 1993); Bruce J. Peterson *et al., Control of Nitrogen Export from Watersheds by Headwater Streams.* 292 Science 86-90 (April 6, 2001).

streams in EPA Region III, which encompasses most of the Chesapeake Bay watershed.[16] The Bay watershed's extensive headwater streams are important tributaries to downstream navigable waters, but they do not always flow year round; nor do they always flow above ground. Many EPA Region III first-order streams have intermittent flow periods during the summer months or during dry years.[17]

Headwater streams in the limestone or karst regions of the Bay watershed flow underground for some length before they re-emerge as a surface stream some distance downstream. These types of streams have a definite hydrological connection to downstream navigable-in-fact rivers, though the connection is not apparent by observing surface water flows exclusively.[18] However, under Petitioners' view, these tributaries would not be subject to CWA jurisdiction and would be subject to development and contamination.

Many Bay watershed headwater streams, as well as higher order non-navigable tributaries, have been channelized over time and incorporated into ditch and stormwater systems that connect non-navigable streams and adjacent wetlands to downstream waters.[19] In two recent cases, the Fourth Circuit recognized that

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[16] EPA Region III ANPRM Response, at 10, Appendix E at 3; *see also*, Rhodes, C.A., EPA Region III, *Findings in the Mid-Atlantic Region Concerning Implications for Clean Water Act Jurisdiction for Various Interpretations of SWANCC*, Presented to the ASWM Legal Workshop, Albuquerque New Mexico, October 18, 2005 (*EPA Mid-Atlantic Findings Presentation*), at 16, 20. http://www.aswm.org/calendar/legal/rhodes.pdf (last visited January 12, 2006).

[17] *Id. See also*, EPA Letter (EPA NHD analysis indicates that 59% of the U.S. (except Alaska) stream miles have intermittent or ephemeral flow.

[18] *Id.* at 4.

[19] *See*, Council on Environmental Quality, *Environmental Trends* (1989) at 35 (estimating that 10% of perennial streams in the United States have been channelized); *Where Rivers Are Born*, at 11.

manmade ditches draining Bay watershed wetlands are nonetheless tributaries subject to the CWA. *See, United States v. Deaton*, 332 F.3d 698, 712 (4th Cir. 2003), *cert. denied*, 541 U.S. 972 (2004) (*Deaton*); *Treacy v. Newdunn*, 344 F.3d 407, 417 *cert. denied* 124 S.Ct. 1874 (2004) (4th Cir. 2003) (*Newdunn*) ("Whether manmade or natural, the tributary [the I-64 ditch] flows into traditional, navigable waters.").

2. Most of the Bay watershed's wetlands are non-tidal wetlands connected to tributaries.

Approximately 1.7 million wetland acres remain in the Chesapeake Bay watershed.[20] Almost 90% (about 1.5 million acres) of these remaining wetlands are non-tidal, freshwater "palustrine" wetlands, including freshwater marshes, wet meadows, forested swamps, and bogs.[21] Forested palustrine wetlands comprise the bulk of these freshwater wetlands. These are the freshwater wetlands most likely to be considered "adjacent" for CWA purposes because they are located next to but not within the banks of freshwater lakes, streams, or rivers. Some might be considered "isolated," though most of these are connected to surface waters by groundwater.[22] Over 36,000 of these palustrine wetland acres were destroyed between 1982 and 1989 alone.[23]

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[20] *See*, Tiner, R.W., *Trends in the Chesapeake Bay Watershed Wetlands*, U.S. Fish and Wildlife Service, Ecological Services, Hadley, MA. at http://biology.usgs.gov/s+t/SNT/noframe/ne124.htm (last visited January 9, 2006) (derived from Tiner's estimate of 690,000 hectares remaining in 1989).

[21] *See*, Freshwater "Palustrine" Wetland Photo, Appendix F.

[22] *See*, Hershner, Carl et al., *Wetlands of Virginia: total, isolated and headwater*, Virginia Institute of Marine Science (VIMS) Special Report No. 03-1 (February 2003). http://ccrm.vims.edu/pubs/WetlandsOfVA203.pdf (last visited January 11, 2006).

[23] *Trends in the Chesapeake Bay Watershed Wetlands, supra.*

EPA Region III estimates that roughly 36% of its remaining wetlands are headwater wetlands.[24] About 12% of the Region's remaining wetlands are headwater wetlands that lack a perennial or intermittent surface water connection to navigable-in-fact waters.[25] These Bay area headwater wetland habitats include bogs, fens, Delmarva Bays, eastern vernal pools, and pocosins.[26]

An estimated 35-39% of the wetland acreage in the U.S. Fish and Wildlife Service's Upper Delmarva Potholes (or Bays) study area was designated "isolated," though many of these wetlands were likely to have groundwater connections to streams.[27] In addition to groundwater connections, many headwater wetlands on the Delmarva Peninsula are connected to downstream waters by drainage ditches.[28]

EPA Region III field studies show that "fully 73% of the assessed sites had groundwater pathways

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[24] EPA Region III ANPRM Response, at 9-11; *see also, EPA Mid-Atlantic Findings Presentation, supra*, at 12-14.

[25] *Id.* These numbers likely underestimate the extent of headwater wetlands because National Wetland Inventory (NWI) maps underestimate wetland acreage by up to 50%, and small headwater wetlands are the type most frequently missed by the NWI.

[26] EPA Region III ANPRM Response, Appendix I: Threatened and Endangered Species, at 1. The Delmarva bays are so named because of their location on the Delmarva Peninsula, the peninsula on the Eastern Shore of the Chesapeake Bay that includes all of Delaware as well as parts of Maryland and Virginia.

[27] Tiner, R.W., et al, Geographically Isolated Wetlands: A Preliminary Assessment of their Characteristics and Status in Selected Areas of the United States (Geographically Isolated Wetlands), U.S. Department of Interior, Fish and Wildlife Service, Northeast Region, Hadley, MA. (June 2002), Section 2, Delmarva Potholes, Section 3, Region 5 Study Results at http://wetlands.fws.gov/Pubs_Reports/isolated/report_files/3_section/Results/Region_5/r5_results.htm (last visited January 6, 2006).

[28] Ator, Scott W., et al. *Hydrologic and Geochemical Controls on Pesticide and Nutrient Transport to Two Streams on the Delmarva Peninsula*. U.S. Geological Survey, Scientific Investigations Report 2004-5051. http://pubs.usgs.gov/sir/2004/5051/SIR2004-5051.pdf (last visited January 11, 2006).

connecting them to downstream water bodies." Groundwater was frequently one of several hydrological sources linking downstream waters.[29]

Importantly, EPA's field studies also found that the interrelationships between wetlands with linkages by non-perennial surface and/or groundwater flows and their surroundings require on-site inspections because these complex linkages are not displayed on widely used mapping and planning tools.[30] Consequently, while the great majority of Bay watershed headwater wetlands are connected hydrologically to downstream navigable-in-fact waters, identifying these complex connections with precision in each case for regulatory purposes is often very time and resource intensive. Petitioners' suggestion that regulators must definitively establish such a connection in each case prior to asserting jurisdiction is untenable.

C. Bay Watershed Adjacent Wetlands and Non-navigable Streams Are Essential to Restoring and Protecting the Chesapeake Bay Region.

1. Bay watershed headwater wetlands and streams filter pollutants.

Extensive phosphorus and nitrogen pollution causing eutrophication[31] is the most significant threat to Chesapeake Bay watershed restoration.[32] In 2003, 350 million pounds of nitrogen pollution and 30 million

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[29] EPA Region III ANPRM Response, Section IV. Case Study, at 1, 4.

[30] *Id.*

[31] The Chesapeake Bay Program website defines eutrophication as "the process of excess nutrients accelerating the growth of algae, oftentimes ultimately depleting the water of oxygen." http://www.chesapeakebay.net/glossary.htm (last visited January 10, 2006).

[32] Chesapeake 2000 Agreement, Water Quality Protection and Restoration, at 5.

pounds of phosphorus pollution entered the Bay through its nine major tributaries.[33]

Chesapeake Bay's headwater wetlands and streams are essential tools in combating this nutrient enrichment because they absorb, filter, and recycle this pollution, preventing eutrophication.[34] Studies have shown that non-tidal wetlands near the Chesapeake Bay removed an estimated 89% of the nitrogen pollution and 80% of the phosphorus pollution that entered the wetlands through upland runoff, groundwater, and bulk precipitation.[35] In Eastern Maryland, concentrations of nitrate pollution have been found to decrease in watersheds with a prevalence of forested wetlands.[36] Wetlands restored in an agricultural area on the

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[33] Langland, M.J. et al, *Changes in streamflow and water quality in selected nontidal sites in the Chesapeake Bay Basin, 1985-2003: U.S.Geological Survey Scientific Investigations Report 2004*-5259 (2004), at 23-27 at http://pubs.usgs.gov/sir/2004/5259/sir2004-5259.pdf (last visited January 6, 2006)) (2003 loads affected in part by high 2003 stream flow).

[34] *Wetlands of Virginia: total, isolated and headwater, citing, inter alia,* Peterjohn, W.T. and D.L. Correll, *Nutrient dynamics in an agricultural watershed: Observations on the role of a riparian forest.* Ecology 65(5): 1466-1475 (1984); *see generally*, David K. Mueller & Dennis R. Helsel, U.S. Geological Survey Circular, No. 1136, *Nutrients in the Nation's Waters – Too Much of a Good Thing?* (1996) at http://water.usgs.gov/nawqa/circ-1136/h6.html (last visited January 5, 2006).

[35] EPA Region III ANPRM Response, at Appendix D, Literature Review: Character and Function of "Isolated Wetlands," U.S. EPA, Philadelphia, PA (2003) at 13-14 *citing* Peterjohn, W.T. and D.L. Correll (1984), *supra*); *see also*, Tiner, R.W. and D.G. Burke, *Wetlands of Maryland*, U.S. Fish and Wildlife Service, Ecological Services, Region 5, Hadley, MA and Maryland Department of Natural Resources, Annapolis, MD (1995) at 146-147 (the "riparian forest" in the 1984 Peterjohn and Correll study was later recognized to be part of a wetland continuum).

[36] Phillips, P.J. et al. *Effect of Forested Wetlands on Nitrate Concentrations in Ground Water and Surface Water on the Delmarva Peninsula*, 13 Wetlands 75-83 (1993).

Delmarva Peninsula removed an average of 68% of nitrate nitrogen.[37]

As the 4th Circuit explained in *United States v. Deaton*, the filtering effect of wetlands is actually reversed, releasing trapped pollutants back into surface and groundwater, when wetlands are drained and developed. *Deaton*, 209 F.3d at 336 (citing Office of Technology Assessment, U.S. Congress, *Wetlands: Their Use and Regulation*, 48-50, 124 (1984)). The *Deaton* Court recognized that protecting and restoring the Chesapeake Bay's adjacent wetlands and non-navigable tributaries is essential to reducing pollution downstream in the Chesapeake Bay and its major tributaries.

2. Bay watershed headwater wetlands and streams are essential for pure drinking water supplies.

Between 148 and 526 surface drinking water intakes, serving populations ranging from 535,000 to 3 million people, are located in non-navigable headwaters in Chesapeake Bay states.[38] The headwaters of the Potomac River and other Chesapeake Bay tributaries serve as a natural filter for drinking water, much like "a giant Brita."[39] Residents of the Delmarva Peninsula rely on ground water aquifers for drinking water and other water supplies, at least some of which are vulnerable to contamination from pollutants discharged into headwater wetlands, streams, and ditches.[40]

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[37] Jordan, T.E. et al., Restored Wetlands in Crop Fields Control Nutrient Runoff in Nutrient Cycling and Retention in natural and Constructed Wetlands, pp 49-60.

[38] EPA Region III ANPRM comments at 7-8, Section II, GIS Highlights; *see*, Drinking Water Intake Map, Appendix G; *see also*, *EPA Mid-Atlantic Findings Presentation*, *supra*, at 8-11; EPA Letter, *supra*..

[39] Mary Battiata, *Silent Streams*, Washington Post (Sunday, November 27, 2005; W10).

[40] *See Hydrologic and Geochemical Controls*, *supra*, at Section 2, Delmarva Potholes.

Removal of the source water protection measures afforded by the CWA would increase risks to human health, and will require additional infrastructure expenditures by public utilities using surface water intakes.[41] For example, if CWA jurisdiction is removed for first order streams, untreated or partially treated municipal sewage or animal waste discharged upstream of a drinking water intake could contaminate water supplies with pathogens such as *Cryptosporidium* and *E.Coli* that are hardy and resistant to treatment. Many EPA Region III sewage treatment plants are located on first or second order streams. Unless these plants are closely regulated, these pathogens, routinely found in human sewage, can show up in finished tap water.[42] Removal of federal jurisdiction over such waters would impair the ability of states and the federal government to monitor and control the level of discharges to these waters.[43]

3. Bay watershed headwater wetlands and streams reduce sediment loads downstream.

Chesapeake Bay watershed headwater streams and wetlands slow and hold run-off and sediment upstream, reducing channel erosion and sediment loads downstream. Conversely, when headwater wetlands and streams are altered, they retain less sediment and send

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[41] Region III ANPRM Response at 7.

[42] *Id.* at 8, 27.

[43] *See, infra*, at Part II (regarding the need for a federal umbrella for downstream states like Maryland (the Susquehanna) and Virginia (the Potomac).

more sediment downstream.[44] Increased sediment loads downstream reduce water clarity and habitat quality.[45]

Increased sediment loads from headwaters and smaller streams also adversely affect the navigability of downstream waters. Loss or lack of regulation of these important filtering areas will result in the need for more extensive and recurrent dredging.[46] For example, "keeping Baltimore Harbor navigable costs $10 to $11.5 million annually to dredge and dispose of sediment the Patapsco River [a Bay tributary] deposits in the harbor."[47]

4. Bay watershed headwater wetlands and streams and moderate flood flows.

Chesapeake Bay headwater wetlands and streams provide for the graduated release of surface and groundwater flows, holding back heavy surface water

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[44] *See*, Herman, J., Hupp, C., and Langland, M., *Chapter 4. Watershed Sediment Deposition and Storage* in *A Summary Report of Sediment Processes in Chesapeake Bay and Watershed*, U.S. Geological Survey Water Resources Investigations Report 03-4123, New Cumberland, PA (2003), at 43-45; EPA Region III ANPRM Response at 14-18, Appendix E at 7-9.

[45] *See*, Chesapeake Bay Program, *Background: Sediment and the Bay* at http://www.chesapeakebay.net/sediment.htm (last visited January 7, 2006); U.S. EPA Region III, *Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chrlorophyll a for the Chesapeake Bay and Its Tidal Tributaries*, EPA 903-R-03-002 (April 2003), Executive Summary at xii-xiii. http://www.chesapeakebay.net/pubs/waterqualitycriteria/12022002/Executive_Summary.pdf (last visited January 7, 2006); Koroncai, Robert et al., *Setting and Allocating the Chesapeake Bay Basin Nutrient and Sediment Loads: The collaborative process, technical tools, and innovative approaches*, EPA 903-R-03-007. U.S. EPA Region III Chesapeake Bay Program Office, Annapolis, MD (December 2003) at Executive Summary, xiii. http://www.chesapeakebay.net/pubs/doc-allocating-front.pdf (last visited January 7, 2006).

[46] EPA Region III ANPRM Response, at 8.

[47] Where Rivers are Born, at 12.

flows during storm events, and releasing base flow through groundwater during dry periods.[48]

The U.S. Fish and Wildlife Service study of the Delmarva Potholes (Delmarva Bays) reports:

> Given their abundance, Delmarva potholes aid in temporary storage of
>
> surface water and thereby help reduce local flooding. They alternately
>
> serve as ground-water discharge (wet season) and recharge (dry season)
>
> areas, with some recharge water eventually discharging into coastal plain
>
> streams and contributing to base flows vital for sustaining aquatic biota.[49]

Conversely, destruction of these headwater wetlands and streams will contribute to larger flood flows downstream,[50] and decreased base flow to streams, reducing water quality and harming aquatic flora and fauna.[51] Growth in storm sewers and paved surfaces around Watts Branch, Maryland more than tripled the

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[48] *See e.g.*, EPA Region III ANPRM Response at 14-18, Appendix D, at 10-13, and Appendix E at 7-9; *Where Rivers Are Born* at 10-11; Winter, T. *et al.*, *Groundwater and Surface Water: A Single Resource*, U.S. Geological Survey Circular 1139, 67 (1998). http://pubs.usgs.gov/circ/circ1139/ (last visited January 11, 2006).

[49] Tiner, R.W. Geographically Isolated Wetlands of the United States, Wetlands, Vol. 23 (3), 494-516, at 505 (citations omitted); see also, Hydrologic and Geochemical Controls on Pesticide and Nutrient Transport to Two Streams on the Delmarva Peninsula, supra.

[50] *See e.g.*, EPA Region III ANPRM at 8, 16-18, Appendix E at 9 *citing* Meyer and Wallace (2001); *Where Rivers are Born*, at 10-11.

[51] *See*, EPA Region III ANPRM Response, at 16-17, Appendix D at 14, Appendix E at 9; *Where Rivers Are Born* at 11; *Groundwater and Surface Water: A Single Resource.*, *supra*, at 67.

number of floods and increased average annual flood size by 23 percent.[52]

5. Bay area non-navigable tributaries and adjacent wetlands support the Bay area's fisheries and shell-fisheries.

Non-tidal wetlands throughout the Bay watershed provide essential services to finfish and shellfisheries in the Chesapeake Bay. For example, Maryland's non-tidal wetlands support numerous fish (menhaden and striped bass) and shellfish (blue crabs and oysters) species, either directly by providing habitat, or indirectly by regulating freshwater flow and filtering pollutants. Approximately 200 fish species use Chesapeake Bay waters.[53] Maryland's non-tidal seasonal and temporarily flooded wetlands provide spawning, feeding, and nursery habitat for some freshwater fish species during flooding periods, and some also appear to be important in supporting the invertebrate food base for Maryland's riverine fisheries.[54] Bay watershed non-tidal wetlands and tributaries support a healthy freshwater sport fishery. In 2001, 367,000 resident and non-resident anglers fished in Maryland's fresh waters. Over 720,000 fished in Virginia's.[55]

The American eel is commercially important fish species that relies on the upstream non-navigable tributaries of the Chesapeake Bay watershed. The eel

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[52] Meyers, J.L. and J.B. Wallace, *Lost Linkages and Lotic Ecology: Rediscovering Small Streams*. Pages 295-317, at 307, *citing* Leopold, L.B., *A View of the River*. Cambridge, Mass: Harvard University Press, in M.C. Press, N.J. Huntly and S. Levin, editors. *Ecology: Achievement and Challenge*. Blackwell Science.

[53] *Wetlands of Maryland*, at 141.

[54] *Id.* at 141-142; *see also*, EPA Region III ANPRM Response, Appendix E at 18.

[55] U.S. Fish and Wildlife Service, *2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*, 108 (2001), available at http://www.census.gov/prod/2003pubs/fhws01-us.pdf (last visited January 5, 2006).

lives most of its life in the inland reaches of these upstream waters and then goes to sea to spawn. The Bay area commercial harvest was about 700,000 pounds in 1981.[56] The Maryland commercial harvest was just over 192,000 pounds in 2002.[57] Loss of headwater streams due to unchecked development will eliminate essential eel habitat and will result declining catch.

Bay headwaters and other non-navigable tributaries and adjacent wetlands provide essential water quality and quantity functions that support the Chesapeake Bay's striped bass, shad, and perch fisheries, among others, by regulating freshwater flow and filtering pollutants, helping protect critical spawning and nursery habitat for these species. The upper reaches of Chesapeake Bay tidal waters and the upper mainstem are used as spawning and nursery grounds for striped bass, shad, perch and other fish. The importance of this use is reflected in state and federal water quality standards that assign a "migratory fish spawning and nursery" designated use to these waters.[58]

The major tributaries of the Chesapeake Bay support 70-90% of the striped bass spawned on the East Coast.[59] The 2002 commercial harvest in Maryland alone

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[56] *See*, Chesapeake Bay Program, Fish: American Eel at http://www.chesapeakebay.net/baybio.htm (last visited January 10, 2006).

[57] Maryland's Commercial Fisheries Annual Landings Data Set: American Eel/Common Eel, at http://mddnr.chesapeakebay.net/mdcomfish/mdcomfishery.html (last visited January 10, 2006).

[58] *See, Ambient Water Quality Criteria*, *supra*; Chesapeake Bay Program Powerpoint Presentation at www.chesapeakebay.net/pubs/waterqualitycriteria/DOC-nspresentation.ppt at slide 28, 31. EPA has published water quality standards for the Bay and tidal tributaries., http://www.chesapeakebay.net/pubs/waterqualitycriteria/12022002/cover.pdf.

[59] Chesapeake Bay Program, *Animals and Plants: Striped Bass* at http://www.chesapeakebay.net/striped_bass.htm (last visited January 7, 2006).

was over 1.8 million pounds.[60] Another important Chesapeake Bay commercial fishery is the menhaden fishery. This fishery is highlighted for protection in the Bay through the "open water and shellfish" designated use.[61] The village of Reedville, Virginia on the Bay was reported as the second-largest port in the Nation in terms of catch landed in 2004. Federal figures show 400.5 million pounds of fish were unloaded there that year, trailing only Dutch Harbor, Alaska.[62] About 97% of the Chesapeake Bay area fish harvest is estuarine dependent.[63] In 2004, the Chesapeake Bay area harvest in Maryland and Virginia for all fish species was over 500 million pounds and was valued at over $209 million.[64]

Bay watershed headwaters and other non-navigable tributaries and adjacent wetlands support the Bay's world renowned shellfishery by reducing nitrogen and phosphorus pollution and sediment loads in downstream waters, and thereby fostering growth of submerged aquatic vegetation ("SAV") with increased water clarity and increases in dissolved oxygen from

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[60] Maryland's Commercial Fisheries Annual Landings Data Set: Striped Bass, at http://mddnr.chesapeakebay.net/mdcomfish/mdcomfishery.html (last visited January 10, 2006).

[61] *See*, Chesapeake Bay Program Powerpoint Presentation, *supra*, at slide 34.

[62] National Marine Fisheries Service, *Fisheries of the United States 2004*, Current Fisheries Statistics No. 2004, Silver Spring, MD (November 2005), at U.S. Commercial Landings, 2, 7. http://www.st.nmfs.gov/st1/fus/fus04/02_commercial2004.pdf (last visited January 10, 2006).

[63] *See, Ambient Water Quality Criteria*, *supra*; Chesapeake Bay Program Powerpoint Presentation, *supra*, at slides 28, 31.

[64] National Marine Fisheries Service, *Fisheries of the United States 2004*, Current Fisheries Statistics No. 2004, Silver Spring, MD (November 2005), at U.S. Commercial Landings. http://www.st.nmfs.gov/st1/fus/fus04/02_commercial2004.pdf (last visited January 10, 2006).

reductions in nitrogen and phosphorus pollution loads.[65] SAV provides essential habitat for immature and molting blue crabs.

Oyster and blue crab commercial harvests have declined since the 1970s due to the combined effects of several factors including pollution and the loss of SAV. Still, the Chesapeake Bay remains one of the world's largest producers of blue crabs. The Chesapeake region blue crab harvest in 2004 was 58.4 million pounds, worth over $44 million.[66] Currently, the combined value of the Chesapeake's shellfish and finfish harvests is estimated around $1 billion annually.[67] The Chesapeake Bay fisheries so central to the region's culture and economy are clearly placed in harm's way by the removal of CWA protections upstream.

6. Bay area adjacent wetlands and non-navigable streams support waterfowl and other migratory bird populations.

The Chesapeake Bay watershed is home to 29 species of waterfowl and is a major resting ground along the Atlantic Migratory Bird Flyway.[68] At one time, millions of waterfowl spent their winters in the Bay region, supported by profuse SAV beds and supplemental

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[65] *See, Ambient Water Quality Criteria, supra*; *see also*, Chesapeake Bay Program Powerpoint Presentation, *supra*, at slides 32, 36.

[66] *Fisheries of the United States 2004, supra*, at Review. http://www.st.nmfs.gov/st1/fus/fus04/01_intro2004.pdf (last visited January 10, 2006).

[67] Northeast Midwest Institute, *Large Scale Ecosystem Restoration Initiatives – Protecting and Restoring the Chesapeake Bay*, (2005) at "Ecosystem Users". www.nemw.org/chesapeake.htm (last visited January 7, 2006).

[68] *Wetlands of Maryland, supra*, at 142 (One third of all waterfowl using the Atlantic Flyway find winter habitat in the Chesapeake Bay and its wetlands); *see also*, Chesapeake Bay Program, *Waterfowl*. http://www.chesapeakebay.net/waterfowl.htm (last visited January 7, 2006); *Large Scale Ecosystem Restoration Initiatives – Protecting and Restoring the Chesapeake Bay, supra*, at "About the Ecosystem".

diets rich in invertebrates. Many of the bird and waterfowl species identified in Maryland regularly use vegetated non-tidal wetlands, and a significant number of these depend on these habitats for survival.[69] The destruction of wetlands, and dramatic declines in SAV and water quality, among other things, have reduced the number of waterfowl in the Bay area to about one million birds.[70] Loss of SAV and non-tidal wetland habitat must be reversed to protect and restore the waterfowl and other migratory bird populations of the Chesapeake Bay watershed – and the entire Atlantic Migratory Bird Flyway.

II. CWA JURISDICTION THROUGHOUT THE WATERSHED IS ESSENTIAL TO ACHIEVING THE COMMITMENTS OF THE CHESAPEAKE BAY AGREEMENTS

A. Federal and State Partners Recognize the Importance of Broad Clean Water Act Jurisdiction to Bay Watershed Restoration.

The argument that states alone can best protect their non-navigable tributaries and adjacent wetlands rings hollow in the Chesapeake Bay watershed. The CWA requires the Bay states, like all others in the Nation, to identify waters within their respective boundaries that were impaired, 33 U.S.C. § 1313, and to develop plans for removing those impairments. The states of Maryland, Pennsylvania, and Virginia, the District of Columbia and the United States recognized in the 1970s, that they could not solve the dire problems facing their rivers, streams and the Chesapeake Bay alone or in piecemeal fashion. Thus, they entered into an historic compact, the Chesapeake Agreement of 1983. That agreement was reaffirmed and strengthened in similar agreements signed in 1987 and 2000. Congress

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[69] *Wetlands of Maryland, supra*, at 142-144.

[70] *Id.*

recognized the need for these agreements and the cooperative federalism principle [71] they embody by passing legislation which created the Chesapeake Bay Program, under the auspices of the EPA, and authorizing the expenditure of a significant amount of federal funds to support those agreements. 42 U.S.C. § 1267.[72] Recognizing the importance of pollution reduction in the headwaters of the Bay watershed, the "headwater states" of Delaware, New York, and West Virginia have joined the Chesapeake Bay partnership through a memorandum of understanding.[73]

The state and federal signatories to the Chesapeake Bay Agreements recognize that the fate of the Chesapeake Bay ecosystem and watershed depend upon the willingness and capability of the six watershed states and the District of Columbia to significantly reduce nitrogen, phosphorus, and sediment loads throughout the Chesapeake Bay watershed.[74] The Chesapeake Bay partners recognize that they cannot achieve these nutrient and sediment reductions without the federal resources and uniform federal regulatory framework supplied by the Clean Water Act.[75]

B. The Chesapeake Bay Partners Must Apply the Clean Water Act Throughout the Watershed to Restore the Chesapeake Bay.

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[71] See, Weiser, J, Towards a Constitutional Architecture for Cooperative Federalism, 79 N.C.L. Rev. 663 (2001); Comment: This Dog Has Teeth . . . Cooperative Federalism and Environmental Law, 16 Vill. Envtl. L.J. 109 (2005).

[72] *See*, 33 U.S.C. § 1267(j), P.L. 106-457, Title II, §202-203 (Nov. 7, 2000).

[73] Chesapeake Bay Watershed Partners Agreement (2001), *supra*, and Appendix H.

[74] *See*, discussion of nitrogen and phosphorus and sediment load allocations, *infra*, at Part II.C.2.

[75] *See e.g., Chesapeake 2000* at 5.

1. The Bay partners need broad Clean Water Act jurisdiction to improve water quality.

The 2000 Chesapeake Bay Agreement states unequivocally that *"[i]mproving water quality is the most critical element of the overall protection and restoration of the Chesapeake Bay and its tributaries."* These water quality improvements are necessary to, among other things, protect and restore the Bay's fisheries. [76]

The partners leave no doubt that the implementation of the CWA water quality standards and waste allocation provisions throughout the watershed is essential to achieving the Agreement's central water quality restoration commitment:

> Recent actions taken under the Clean Water Act resulted in listing portions
>
> of the Chesapeake Bay and its tidal rivers as 'impaired waters.' *These*
>
> *actions have emphasized the regulatory framework of the Act along with the ongoing cooperative efforts of the Chesapeake Bay Program as the means to address the nutrient enrichment problems of the Bay and its rivers* .... We
>
> have agreed to the goal of improving water quality in the Bay and its
>
> tributaries so that these waters may be removed from the impaired waters
>
> list prior to the time when regulatory mechanisms under Section 303(d)
>
> of the Clean Water Act would be applied.[77]

The Bay partners have further agreed that a regulatory TMDL covering the entire 64,000 square mile

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[76] *Chesapeake 2000* at 2.

[77] *Id.* (emphasis added).

Bay watershed will be put in place by 2011 if Bay water quality is not restored by 2010.[78] However, without the broad federal framework of the CWA upon which each of the signatories to the Bay Agreements could base their independent regulatory actions, the commitments made in these agreements could not be achieved. Restricting CWA jurisdiction to the largest Bay tributaries and their adjacent wetlands will make it nearly impossible for the Bay partners to meet the revised water quality standards and waste allocations necessary to achieve their water quality restoration commitments.[79]

2. The Bay partners need broad Clean Water Act jurisdiction to protect and restore vital wetlands and SAV areas.

The Chesapeake Bay partners recognize that to restore the living resources of the Bay, they must protect and restore the Bay's "natural infrastructure": its "thousands of miles of river and stream habitat that interconnect the land, water, living resources and human communities of the Bay watershed." The partners recognize, in particular, the importance of protecting and restoring SAV, wetlands, streams, and riparian forests for their erosion reduction and water quality filtration capabilities.[80] SAV restoration will require more stringent water clarity standards and strategies. Increasing water clarity requires decreasing nutrient and sediment loads.[81] Headwater wetlands and streams contribute to improving water clarity in the Bay.

The Bay partners commit to "achieve a no-net loss of existing wetlands acreage and function in the

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[78] *See e.g.*, Chesapeake Bay Program, *Water Quality Protection and Restoration: The Comprehensive Approach to Restoring Bay Water Quality* at www.chesapeakebay.net/info/wqcriteriatech/index.cfm at 2 (last visited January 7, 2006).

[79] *See*, EPA Region III ANPRM Response at 23.

[80] *Chesapeake 2000*, Vital Habitat Protection and Restoration, at 3-5.

[81] *Id.* at 3-4.

signatories' regulatory programs."[82] This commitment cannot be honored without CWA jurisdiction that extends to non-navigable tributaries and their adjacent wetlands. The District of Columbia has no independent regulatory program that can ensure no-net-loss of wetlands within its boundaries. Neither does West Virginia. New York's wetlands program does not regulate many non-tidal wetlands under 12.4 acres in size.[83]

While Maryland, Virginia, and Pennsylvania do have independent wetlands regulatory programs, their success in ensuring no-net-loss of existing wetlands depends to no small extent on the uniform federal "no-net-loss" standard. The federal §404 program also provides important support for these state programs, sharing the burdens of wetland delineation, functional assessment, permit review and enforcement. Narrowing CWA jurisdiction will shift more of the economic burden for regulating headwaters and other adjacent wetlands and non-navigable tributaries to state and local governments. [84]

C. Clean Water Act Jurisdiction Throughout the Watershed is Essential to Achieve the Stricter Water Quality Standards and Load Allocations Necessary to "Save the Bay."

1. CWA jurisdiction drives the stricter water quality standards and waste load allocations needed throughout the Bay watershed.

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[82] *Id.* at 4-5.

[83] *See e.g.*, Association of State Wetlands Managers, State Wetland Programs at http://aswm.org/swp/statemainpage9.htm (last visited January 7, 2006).

[84] *See e.g.*, EPA Region III ANPRM Response at 20, Appendix K: State Programs in Region III; *see also*, ASWM Br.and the Amicus Brief of the States of New York and Michigan et al.

Clean Water Act-mandated water quality standards are central to meeting the CWA mandate to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). EPA acts as an important federal backstop for state promulgation and implementation of state water quality standards, ensuring that state standards are consistent with the CWA. If the CWA no longer extends to non-navigable streams and adjacent wetlands, the applicability of water quality standards to these waters is open to question, and EPA's ability to ensure that state water quality standards will achieve the requirements of the CWA would be undermined.[85]

CWA §303(d) requires states to list as "impaired waters" those waters that are not meeting state water quality standards, and to develop and execute Total Maximum Daily Loads (TMDLs) to bring those impaired waters back into compliance with state water quality standards. A TMDL defines the pollutant load that a waterbody can assimilate without triggering violations of water quality standards and then allocates the loading of each pollutant of concern to specific contributing point sources (e.g, industrial and municipal waste water treatment plants) and non-point sources (e.g., agricultural run-off). TMDLs for downstream impaired waters will fail to meet water quality standards if the TMDLs cannot limit pollutant loadings in upstream tributaries and adjacent wetlands.[86]

CWA NPDES (§402) permitting goes hand-in-hand with implementing TMDLs. The TMDL waste load allocations for point source discharges are implemented through NPDES permits. If NPDES permits are no longer required for facilities discharging into upstream tributaries, then it will be difficult to assign and enforce

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[85] EPA Region III ANPRM Response, at 22.

[86] *Id.* at 22-25.

waste load allocations to such facilities.[87] Because pollutant loadings are often in small streams, exclusion of these smaller upstream tributaries from NPDES permits and TMDL allocations would result in an inability to control water quality in large mainstem waters.[88]

Environmental Amici present a graphic illustration of this pollution risk: photographs of two District of Columbia sewer outfalls into two small tributaries of Rock Creek and the Potomac River. Presently, these sewer outfalls require NPDES permits that limit pollution discharges, including raw sewage, to downstream waters. Under Petitioner Rapanos' theory of this case, these outfalls would no longer require NPDES permits and water quality in Rock Creek and downstream would suffer.[89]

Baywide, sewage treatment plants contribute 19% of the nitrogen that flows into the Bay each year.[90] The Chesapeake Bay Program has reported that where Bay watershed municipal wastewater treatment plants have reduced nitrogen discharges to comply with a nitrogen limit in an NPDES permit, it is because the limit has been imposed through a local TMDL in one of the many Bay sub-basins.[91] Without the NPDES and TMDL

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[87] *See*, Region III ANPRM Response, Appendix. J at 2 and Table 1, Sample of Current NPDES Permits on Small Streams.

[88] Region III ANPRM Response at 23. *See also*, EPA Letter, *supra* note 17 (EPA estimate that over 40% of NPDES permits are for discharges of pollutants into non-navigable streams (excluding Alaska). About 28% of these are from municipal sewage treatment systems. The rest are from an array of over 500 industrial categories).

[89] *See*, Amicus Brief of American Rivers, et al. at 12 and Appendix A.

[90] *See*, Chesapeake Bay Program Tributary Strategies Backgrounder at 2: http://www.chesapeakebay.net/pubs/tribstrats_backgrounder_final.pdf . (last visited January 7, 2006).

[91] Chesapeake Bay Program, *What's the Status of Point Source Nitrogen Reduction in the Chesapeake Bay Watershed?* (January 2004). http://www.chesapeakebay.net/pubs/waterqualitycriteria/doc-pointsource_for_tribtools.pdf. (last visited January 7, 2006).

requirements, nitrogen discharges into upstream tributaries will be impossible to adequately control.

2. The Bay partners cannot achieve the necessary pollution reductions without CWA jurisdiction over non-navigable tributaries and adjacent wetlands.

In order to achieve their restoration requirements, particularly the stricter water quality standards necessary to protect migratory fish spawning and nursery use and shellfish use, the six Bay watershed states and the District of Columbia recently agreed to substantially reduce nutrient pollution below 2000 levels by 2010. The new nitrogen reduction requirement is to reduce annual loads to no more than 175 million pounds. The new phosphorus reduction requirement is to reduce annual loads to no more than 12.8 million pounds.[92] The partners have also agreed to reduce annual loads of land-based sediment to no more than 4.15 million tons in order to reduce sediment loads enough to provide the water clarity necessary for underwater grasses to thrive.[93]

To achieve these ambitious pollution reduction commitments all six Bay watershed states and the District of Columbia must "pull their weight".[94] The Chesapeake Bay Program ran simulation models to determine the maximum load allocations for each of the

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[92] *Setting and allocating the Chesapeake Bay Basin Nutrient and Sediment Loads*, Executive Summary, *supra*; *see also*, Chesapeake Bay Program Powerpoint Presentation, *supra*, slide 53.

[93] *Id.* See also, Chesapeake 2000 Agreement at 4-6; Setting and allocating the Chesapeake Bay Basin Nutrient and Sediment Loads, Executive Summary, *supra*.

[94] *See e.g.*, Maryland Water Quality Standards –COMAR 26.08.02; Virginia Water Quality Standards, at 9 VAC 25—260.

nine major watershed basins, including the New York headwaters of the Susquehanna.[95]

Tributary strategies to meet these maximum nutrient and sediment load allocations are being developed and implemented for each subwatershed within the nine major Bay tributary basins. These tributary strategies will include, among other actions, facility-by-facility assessments of what additional pollution reduction actions will be required for point sources. The states are developing nutrient pollution-related water quality standards. These standards, together with the tributary strategies, will form the basis of NPDES permit requirements for point source facilities. For nitrogen reductions, the most important point source facilities will be the 310 municipal wastewater treatment plants in the Bay watershed.[96]

If the Court decides to remove from CWA jurisdiction over half of the Bay watershed's stream miles and over one third of the watershed's adjacent wetlands, it will be virtually impossible for the Chesapeake Bay watershed states and the District of Columbia to achieve the nutrient and sediment requirements that must be met to Save the Bay. The exercise in cooperative federalism that is the Chesapeake Bay Program and Agreements will have failed.

III. THE UNITED STATES PROPERLY ASSERTS JURISDICTION OVER TRIBUTARIES AND THEIR ADJACENT WETLANDS "INSEPARABLY BOUND UP" WITH NAVIGABLE WATERS.

In *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121, 134-135 (1985) (*Riverside Bayview*), the Court recognized that Congress intended to regulate

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[95] *Setting and allocating the Chesapeake Bay Basin Nutrient and Sediment Loads*, Executive Summary, *supra*.

[96] *See, What's the Status of Point Source Nitrogen Reduction in the Chesapeake Bay Watershed?, supra*.

wetlands "inseparably bound up with the waters of the United States," and upheld the Army Corps of Engineers' exercise of CWA jurisdiction over adjacent wetlands on that basis. The Court approved this *Riverside Bayview* adjacency holding in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159, 167-168 (2001) (*SWANCC*), while narrowly holding that CWA jurisdiction did not extend to certain truly isolated intrastate ponds. The *Riverside Bayview* holding applies with equal force in this case, where the wetlands at issue drain or "tend to drain" to non-navigable tributaries that are hydrologically and ecologically bound up with downstream navigable waters. *See, United States v. Rapanos*, 376 F. 3d 629, 642-43 (6th Cir. 2004); *Carabell v. U.S. Army Corps of Engineers*, 391 F. 3d 704, 705-706, 708 (6th Cir. 2004); JA Vol. 3 at 639: 16-23 (testimony at wetland application hearing). As in *Riverside Bayview*, the Corps of Engineers properly asserted jurisdiction over the wetlands at issue in these cases.

CONCLUSION

The Chesapeake Bay ecosystem and the Chesapeake Bay Agreements demonstrate that the extensive networks of non-navigable tributaries and adjacent wetlands located upstream in watersheds are inseparably bound up with downstream navigable waters, and that the Clean Water Act goal of maintaining and restoring the physical, chemical, and biological integrity of the Nation's waters cannot be met unless these upstream waters continue to be subject to the Act. For the reasons set forth above, Amicus Curiae the Chesapeake Bay Foundation respectfully requests that the Court affirm the decisions of the Sixth Circuit.

RESPECTFULLY SUBMITTED,

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CHESAPEAKE 2000

PREAMBLE

The Chesapeake Bay is North America's largest and most biologically diverse estuary, home to more than 3,600 species of plants, fish and animals. For more than 300 years, the Bay and its tributaries have sustained the region's economy and defined its traditions and culture. It is a resource of extraordinary productivity, worthy of the highest levels of protection and restoration.

Accordingly, in 1983 and 1987, the states of Virginia, Maryland, Pennsylvania, the District of Columbia, the Chesapeake Bay Commission and the U.S. Environmental Protection Agency, representing the federal government, signed historic agreements that established the Chesapeake Bay Program partnership to protect and restore the Chesapeake Bay's ecosystem.

For almost two decades, we, the signatories to these agreements, have worked together as stewards to ensure the public's right to clean water and a healthy and productive resource. We have sought to protect the health of the public that uses the Bay and consumes its bounty. The initiatives we have pursued have been deliberate and have produced significant results in the health and productivity of the Bay's main stem, the tributaries, and the natural land and water ecosystems that compose the Chesapeake Bay watershed.

While the individual and collective accomplishments of our efforts have been significant, even greater effort will be required to address the enormous challenges that lie ahead. Increased population and development within the watershed have created ever-greater challenges for us in the Bay's restoration. These challenges are further complicated by the dynamic nature

of the Bay and the ever-changing global ecosystem with which it interacts.

In order to achieve our existing goals and meet the challenges that lie ahead, we must reaffirm our partnership and recommit to fulfilling the public responsibility we undertook almost two decades ago. We must manage for the future. We must have a vision for our desired destiny and put programs into place that will secure it.

To do this, there can be no greater goal in this recommitment than to engage everyone — individuals, businesses, schools and universities, communities and governments — in our effort. We must encourage all citizens of the Chesapeake Bay watershed to work toward a shared vision — a system with abundant, diverse populations of living resources, fed by healthy streams and rivers, sustaining strong local and regional economies, and our unique quality of life.

In affirming our recommitment through this new *Chesapeake 2000,* we recognize the importance of viewing this document in its entirety with no single part taken in isolation of the others. This Agreement reflects the Bay's complexity in that each action we take, like the elements of the Bay itself, is connected to all the others. This Agreement responds to the problems facing this magnificent ecosystem in a comprehensive, multifaceted way.

BY THIS AGREEMENT, we commit ourselves to nurture and sustain a Chesapeake Bay Watershed Partnership and to achieve the goals set forth in the subsequent sections. Without such a partnership, future challenges will not be met. With it, the restoration and protection of the Chesapeake Bay will be ensured for generations to come.

WE COMMIT TO:

LIVING RESOURCE PROTECTION AND RESTORATION

The health and vitality of the Chesapeake Bay's living resources provide the ultimate indicator of our success in the restoration and protection effort. The Bay's fisheries and the other living resources that sustain them and provide habitat for them are central to the initiatives we undertake in this Agreement.

We recognize the interconnectedness of the Bay's living resources and the importance of protecting the entire natural system. Therefore, we commit to identify the essential elements of habitat and environmental quality necessary to support the living resources of the Bay, In protecting commercially valuable species, we will manage harvest levels with precaution to maintain their health and stability and protect the ecosystem as a whole. We will restore passage for migratory fish and work to ensure that suitable water quality conditions exist in the upstream spawning habitats upon which they depend.

Our actions must be conducted in an integrated and coordinated manner. They must be continually monitored, evaluated and revised to adjust to the dynamic nature and complexities of the Chesapeake Bay and changes in global ecosystems. To advance this ecosystem approach, we will broaden our management perspective from single-system to ecosystem functions and will expand our protection efforts by shifting from single-species to multi-species management. We will also undertake efforts to determine how future conditions and changes in the chemical, physical and biological attributes of the Bay will affect living resources over time.

GOAL

Restore, enhance and protect the finfish, shellfish and other living resources, their habitats and ecological relationships to sustain all fisheries and provide for a balanced ecosystem.

Oysters

- By 2010, achieve, at a minimum, a tenfold increase in native oysters in the Chesapeake Bay, based upon a 1994 baseline. By 2002, develop and implement a strategy to achieve this increase by using sanctuaries sufficient in size and distribution, aquaculture, continued disease research and disease-resistant management strategies, and other management approaches.

Exotic Species

- In 2000, establish a Chesapeake Bay Program Task Force to:

    1. Work cooperatively with the U.S. Coast Guard, the ports, the shipping industry, environmental interests and others at the national level to help establish and implement a national program designed to substantially reduce and, where possible, eliminate the introduction of non-native species carried in ballast water; and

    2. By 2002, develop and implement an interim voluntary ballast water management program for the waters of the Bay and its tributaries.

- By 2001, identify and rank non-native, invasive aquatic and terrestrial species which are causing

or have the potential to cause significant negative impacts to the Bay's aquatic ecosystem. By 2003, develop and implement management plans for those species deemed problematic to the restoration and integrity of the Bay's ecosystem.

Fish Passage and Migratory and Resident Fish

- By June 2002, identify the final initiatives necessary to achieve our existing goal of restoring fish passage for migratory fish to more than 1,357 miles of currently blocked river habitat by 2003 and establish a monitoring program to assess outcomes.

- By 2002, set anew goal with implementation schedules for additional migratory and resident fish passages that addresses the removal of physical blockages. In addition, the goal will address the removal of chemical blockages caused by acid mine drainage. Projects should be selected for maximum habitat and stock benefit

- By 2002, assess trends in populations for priority migratory fish species. Determine tributary-specific target population sizes based upon projected fish passage, and current and projected habitat available, and provide recommendations to achieve those targets.

- By 2003, revise fish management plans to include strategies to achieve target population sizes of tributary-specific migratory fish.

Multi-species Management

- By 2004, assess the effects of different population levels of filter feeders such as menhaden, oysters and clams on Bay water quality and habitat.

- By 2005, develop ecosystem-based multi-species management plans for targeted species.

- By 2007, revise and implement existing fisheries management plans to incorporate ecological, social and economic considerations, multi-species fisheries management and ecosystem approaches.

Crabs

- By 2001, establish harvest targets for the blue crab fishery and begin implementing complementary state fisheries management strategies Baywide. Manage the blue crab fishery to restore a healthy spawning biomass, size and age structure.

VITAL HABITAT PROTECTION AND RESTORATION

The Chesapeake Bay's natural infrastructure is an intricate system of terrestrial and aquatic habitats, linked to the landscapes and the environmental quality of the watershed. It is composed of the thousands of miles of river and stream habitat that interconnect the land, water, living resources and human communities of the Bay watershed. These vital habitats—including open water, underwater grasses, marshes, wetlands, streams and forests—support living resource abundance by providing key food and habitat for a variety of species. Submerged aquatic vegetation reduces shoreline erosion while forests and wetlands protect water quality by naturally processing the pollutants before they enter the water. Long-term protection of this natural infrastructure is essential.

In managing the Bay ecosystem as a whole, we recognize the need to focus on the individuality of each river, stream and creek, and to secure their protection in concert with the communities and individuals that reside

within these small watersheds. We also recognize that we must continue to refine and share information regarding the importance of these vital habitats to the Bay's fish, shellfish and waterfowl. Our efforts to preserve the integrity of this natural infrastructure will protect the Bay's waters and living resources and will ensure the viability of human economies and communities that are dependent upon those resources for sustenance, reverence and posterity.

GOAL

Preserve, protect and restore those habitats and natural areas that are vital to the survival and diversity of the living resources of the Bay and its rivers.

Submerged Aquatic Vegetation

- Recommit to the existing goal of protecting and restoring 114,000 acres of submerged aquatic vegetation (SAV).

- By 2002, revise SAV restoration goals and strategies to reflect historic abundance, measured as acreage and density from the 1930s to the present. The revised goals will include specific levels of water clarity which are to be met in 2010. Strategies to achieve these goals will address water clarity, water quality and bottom disturbance.

- By 2002, implement a strategy to accelerate protection and restoration of SAV beds in areas of critical importance to the Bay's living resources.

Watersheds

- By 2010, work with local governments, community groups and watershed organizations to develop

and implement locally supported watershed management plans in two-thirds of the Bay watershed covered by this Agreement. These plans would address the protection, conservation and restoration of stream corridors, riparian forest buffers and wetlands for the purposes of improving habitat and water quality, with collateral benefits for optimizing stream flow and water supply.

- By 2001, each jurisdiction will develop guidelines to ensure the aquatic health of stream corridors. Guidelines should consider optimal surface and groundwater flows.

- By 2002, each jurisdiction will work with local governments and communities that have watershed management plans to select pilot projects that promote stream corridor protection and restoration.

- By 2003, include in the "State of the Bay Report," and make available to the public, local governments and others, information concerning the aquatic health of stream corridors based on adopted regional guidelines.

- By 2004, each jurisdiction, working with local governments, community groups and watershed organizations, will develop stream corridor restoration goals based on local watershed management planning.

Wetlands

- Achieve a no-net loss of existing wetlands acreage and function in the signatories' regulatory programs.

- By 2010, achieve a net resource gain by restoring 25,000 acres of tidal and non-tidal wetlands. To do this, we commit to achieve and maintain an average restoration rate of 2,500 acres per year basin wide by 2005 and beyond. We will evaluate our success in 2005.

- Provide information and assistance to local governments and community groups for the development and implementation of wetlands preservation plans as a component of a locally based integrated watershed management plan. Establish a goal of implementing the wetlands plan component in 25 percent of the land area of each state's Bay watershed by 2010. The plans would preserve key wetlands while addressing surrounding land use so as to preserve wetland functions.

- Evaluate the potential impact of climate change on the Chesapeake Bay watershed, particularly with respect to its wetlands, and consider potential management options.

Forests

- By 2002, ensure that measures are in place to meet our riparian forest buffer restoration goal of 2,010 miles by 2010. By 2003, establish a new goal to expand buffer mileage.

- Conserve existing forests along all streams and shorelines.

- Promote the expansion and connection of contiguous forests through conservation easements, green-ways, purchase and other land conservation mechanisms.

WATER QUALITY PROTECTION AND RESTORATION

Improving water quality is the most critical element in the overall protection and restoration of the Chesapeake Bay and its tributaries. In 1987, we committed to achieving a 40 percent reduction in controllable nutrient loads to the Bay. In 1992, we committed to tributary-specific reduction strategies to achieve this reduction and agreed to stay at or below these nutrient loads once attained. We have made measurable reductions in pollution loading despite continuing growth and development. Still, we must do more.

Recent actions taken under the Clean Water Act resulted in listing portions of the Chesapeake Bay and its tidal rivers as "impaired waters." These actions have emphasized the regulatory framework of the Act along with the ongoing cooperative efforts of the Chesapeake Bay Program as the means to address the nutrient enrichment problems within the Bay and its rivers. In response, we have developed, and are implementing, a process for integrating the cooperative and statutory programs of the Chesapeake Bay and its tributaries. We have agreed to the goal of improving water quality in the Bay and its tributaries so that these waters may be removed from the impaired waters list prior to the time when regulatory mechanisms under Section 303(d) of the Clean Water Act would be applied.

We commit to achieve and maintain water quality conditions necessary to support living resources throughout the Chesapeake Bay ecosystem. Where we have failed to achieve established water quality goals, we will take actions necessary to reach and maintain those goals. We will make pollution prevention a central theme in the protection of water quality. And we will take actions that protect freshwater flow regimes for riverine and estuarine habitats. In pursuing the restoration of

vital habitats throughout the watershed, we will continue efforts to improve water clarity in order to meet light requirements necessary to support SAY We will expand our efforts to reduce sediments and airborne pollution, and ensure that the Bay is free from toxic effects on living resources and human health. We will continue our cooperative intergovernmental approach to achieve and maintain water quality goals through cost-effective and equitable means within the framework of federal and state law. We will evaluate the potential impacts of emerging issues, including, among others, airborne ammonia and nonpoint sources of chemical contaminants. Finally, we will continue to monitor water quality conditions and adjust our strategies accordingly.

GOAL

Achieve and maintain the water quality necessary to support the aquatic living resources of the Bay and its tributaries and to protect human health.

Nutrients and Sediments

- Continue efforts to achieve and maintain the 40 percent nutrient reduction goal agreed to in 1987, as well as the goals being adopted for the tributaries south of the Potomac River.

- By 2010, correct the nutrient- and sediment-related problems in the Chesapeake Bay and its tidal tributaries sufficiently to remove the Bay and the tidal portions of its tributaries from the list of impaired waters under the Clean Water Act. In order to achieve this:

    1. By 2001, define the water quality conditions necessary to protect aquatic living resources and then assign load

reductions for nitrogen and phosphorus to each major tributary;

2. Using a process parallel to that established for nutrients, determine the sediment load reductions necessary to achieve the water quality conditions that protect aquatic living resources, and assign load reductions for sediment to each major tributary by 2001;

3. By 2002, complete a public process to develop and begin implementation of revised Tributary Strategies to achieve and maintain the assigned loading goals;

4. By 2003, the jurisdictions with tidal waters will use their best efforts to adopt new or revised water quality standards consistent with the defined water quality conditions. Once adopted by the jurisdictions, the Environmental Protection Agency will work expeditiously to review the new or revised standards, which will then be used as the basis for removing the Bay and its tidal rivers from the list of impaired waters; and

5. By 2003, work with the Susquehanna River Basin Commission and others to adopt and begin implementing strategies that prevent the loss of the sediment retention capabilities of the lower Susquehanna River dams.

Chemical Contaminants

- We commit to fulfilling the 1994 goal of a Chesapeake Bay free of toxics by reducing or eliminating the input of chemical contaminants

from all controllable sources to levels that result in no toxic or bioaccumulative impact on the living resources that inhabit the Bay or on human health.

- By Fall of 2000, reevaluate and revise, as necessary, the "Chesapeake Bay Basinwide Toxics Reduction and Prevention Strategy" focusing on:

  1. Complementing state and federal regulatory programs to go beyond traditional point source controls, including nonpoint sources such as groundwater discharge and atmospheric deposition, by using a watershed-based approach; and

  2. Understanding the effects and impacts of chemical contaminants to increase the effectiveness of management actions.

- Through continual improvement of pollution prevention measures and other voluntary means, strive for zero release of chemical contaminants from point sources, including air sources. Particular emphasis shall be placed on achieving, by 2010, elimination of mixing zones for persistent or bioaccumulative toxics.

- Reduce the potential risk of pesticides to the Bay by targeting education, outreach and implementation of Integrated Pest Management and specific Best Management Practices on those lands that have higher potential for contributing pesticide loads to the Bay.

Priority Urban Waters

- Support the restoration of the Anacostia River, Baltimore Harbor, and Elizabeth River and their

watersheds as models for urban river restoration in the Bay basin.

- By 2010, the District of Columbia, working with its watershed partners, will reduce pollution loads to the Anacostia River in order to eliminate public health concerns and achieve the living resource, water quality and habitat goals of this and past Agreements.

Air Pollution

- By 2003, assess the effects of airborne nitrogen compounds and chemical contaminants on the Bay ecosystem and help establish reduction goals for these contaminants.

Boat Discharge

- By 2003, establish appropriate areas within the Chesapeake Bay and its tributaries as "no discharge zones" for human waste from boats. By 2010, expand by 50 percent the number and availability of waste pump-out facilities.

- By 2006, reassess our progress in reducing the impact of boat waste on the Bay and its tributaries. This assessment will include evaluating the benefits of further expanding no discharge zones, as well as increasing the number of pump-out facilities.

SOUND LAND USE

In 1987, the signatories agreed that "there is a clear correlation between population growth and associated development and environmental degradation in the Chesapeake Bay system." This Agreement reaffirms that concept and recognizes that more must be done.

An additional three million people are expected to settle in the watershed by 2020. This growth could potentially eclipse the nutrient reduction and habitat protection gains of the past. Therefore it is critical that we consider our approaches to land use in order to ensure progress in protecting the Bay and its local watersheds.

Enhancing, or even maintaining, the quality of the Bay while accommodating growth will frequently involve difficult choices. It will require a renewed commitment to appropriate development standards. The signatories will assert the full measure of their authority to limit and mitigate the potential adverse effects of continued growth; each however, will pursue this objective within the framework of its own historic, existing or future land use practices or processes. Local jurisdictions have been delegated authority over many decisions regarding growth and development which have both direct and indirect effects on the Chesapeake Bay system and its living resources. The role of local governments in the Bay's restoration and protection effort will be given proper recognition and support through state and federal resources. States will also engage in active partnerships with local governments in managing growth and development in ways that support the following goal.

We acknowledge that future development will be sustainable only if we protect our natural and rural resource land, limit impervious surfaces and concentrate new growth in existing population centers or suitable areas served by appropriate infrastructure. We will work to integrate environmental, community and economic goals by promoting more environmentally sensitive forms of development. We will also strive to coordinate land-use, transportation, water and sewer and other infrastructure planning so that funding and policies at all levels of government do not contribute to poorly planned growth and development or degrade local water quality and habitat. We will advance these policies by creating

partnerships with local governments to protect our communities and to discharge our duties as trustees in the stewardship of the Chesapeake Bay. Finally, we will report every two years on our progress in achieving our commitments to promote sound land use.

GOAL

Develop, promote and achieve sound land use practices which protect and restore watershed resources and water quality, maintain reduced pollutant loadings for the Bay and its tributaries, and restore and preserve aquatic living resources.

Land Conservation

- By 2001, complete an assessment of the Bay's resource lands including forests and farms, emphasizing their role in the protection of water quality and critical habitats, as well as cultural and economic viability.

- Provide financial assistance or new revenue sources to expand the use of voluntary and market-based mechanisms such as easements, purchase or transfer of development rights and other approaches to protect and preserve natural resource lands.

- Strengthen programs for land acquisition and preservation within each state that are supported by funding and target the most valued lands for protection. Permanently preserve from development 20 percent of the land area in the watershed by 2010.

- Provide technical and financial assistance to local governments to plan for or revise plans, ordinances and subdivision regulations to provide

for the conservation and sustainable use of the forest and agricultural lands.

- In cooperation with local governments, develop and maintain in each jurisdiction a strong GIS system to track the preservation of resource lands and support the implementation of sound land use practices.

Development, Redevelopment and Revitalization

- By 2012, reduce the rate of harmful sprawl development of forest and agricultural land in the Chesapeake Bay watershed by 30 percent measured as an average over five years from the baseline of 1992-1997, with measures and progress reported regularly to the Chesapeake Executive Council.
- By 2005, in cooperation with local government, identify and remove state and local impediments to low impact development designs to encourage the use of such approaches and minimize water quality impacts.

- Work with communities and local governments to encourage sound land use planning and practices that address the impacts of growth, development and transportation on the watershed.

- By 2002, review tax policies to identify elements which discourage sustainable development practices or encourage undesirable growth patterns. Promote the modification of such policies and the creation of tax incentives which promote the conservation of resource lands and encourage investments consistent with sound growth management principles.

- The jurisdictions will promote redevelopment and remove barriers to investment in underutilized urban, suburban and rural communities by working with localities and development interests.

- By 2002, develop analytical tools that will allow local governments and communities to conduct watershed-based assessment of the impacts of growth, development and transportation decisions.

- By 2002, compile information and guidelines to assist local governments and communities to promote ecologically-based designs in order to limit impervious cover in undeveloped and moderately developed watersheds and reduce the impact of impervious cover in highly developed watersheds.

- Provide information to the development community and others so they may champion the application of sound land use practices.

- By 2003, work with local governments and communities to develop land-use management and water resource protection approaches that encourage the concentration of new residential development in areas supported by adequate water resources and infrastructure to minimize impacts on water quality.

- By 2004, the jurisdictions will evaluate local implementation of storm water, erosion control and other locally-implemented water quality protection programs that affect the Bay system and ensure that these programs are being coordinated and applied effectively in order to minimize the impacts of development.

- Working with local governments and others, develop and promote wastewater treatment options, such as nutrient reducing septic systems, which protect public health and minimize impacts to the Bay's resources.

- Strengthen brownfield redevelopment. By 2010, rehabilitate and restore 1,050 brownfield sites to productive use.

- Working with local governments, encourage the development and implementation of emerging urban storm water retrofit practices to improve their water quantity and quality function.

Transportation

- By 2002, the signatory jurisdictions will promote coordination of transportation and land use planning to encourage compact, mixed use development patterns, revitalization in existing communities and transportation strategies that minimize adverse effects on the Bay and its tributaries.

- By 2002, each state will coordinate its transportation policies and programs to reduce the dependence on automobiles by incorporating travel alternatives such as telework, pedestrian, bicycle and transit options, as appropriate, in the design of projects so as to increase the availability of alternative modes of travel as measured by increased use of those alternatives.

- Consider the provisions of the federal transportation statutes for opportunities to purchase easements to preserve resource lands adjacent to rights of way and special efforts for

stormwater management on both new and rehabilitation projects.

- Establish policies and incentives which encourage the use of clean vehicle and other transportation technologies that reduce emissions.

Public Access

- By 2010, expand by 30 percent the system of public access points to the Bay, its tributaries and related resource sites in an environmentally sensitive manner by working with state and federal agencies, local governments and stakeholder organizations.
- By 2005, increase the number of designated water trails in the Chesapeake Bay region by 500 miles.
- Enhance interpretation materials that promote stewardship at natural, recreational, historical and cultural public access points within the Chesapeake Bay watershed.
- By 2003, develop partnerships with at least 30 sites to enhance place-based interpretation of Bay-related resources and themes and stimulate volunteer involvement in resource restoration and conservation.

STEWARDSHIP AND COMMUNITY ENGAGEMENT

The Chesapeake Bay is dependent upon the actions of every citizen in the watershed, both today and in the future. We recognize that the cumulative benefit derived from community-based watershed programs is essential for continued progress toward a healthier Chesapeake Bay. Therefore, we commit ourselves to engage our citizens by promoting a broad conservation ethic throughout the fabric of community life, and foster

within all citizens a deeper understanding of their roles as trustees of their own local environments. Through their actions, each individual can contribute to the health and well-being of their neighborhood streams, rivers and the land that surrounds them, not only as ecological stewards of the Bay but also as members of watershed-wide communities. By focusing individuals on local resources, we will advance Baywide restoration as well.

We recognize that the future of the Bay also depends on the actions of generations to follow. Therefore, we commit to provide opportunities for cooperative learning and action so that communities can promote local environmental quality for the benefit and enjoyment of residents and visitors. We will assist communities throughout the watershed in improving quality of life, thereby strengthening local economies and connecting individuals to the Bay through their shared sense of responsibility. We will seek to increase the financial and human resources available to localities to meet the challenges of restoring the Chesapeake Bay.

GOAL

Promote individual stewardship and assist individuals, community-based organizations, businesses, local governments and schools to undertake initiatives to achieve the goals and commitments of this agreement.

Education and Outreach

- Make education and outreach a priority in order to achieve public awareness and personal involvement on behalf of the Bay and local watersheds.

- Provide information to enhance the ability of citizen and community groups to participate in

Bay restoration activities on their property and in their local watershed.

- Expand the use of new communications technologies to provide a comprehensive and interactive source of information on the Chesapeake Bay and its watershed for use by public and technical audiences. By 2001, develop and maintain a web-based clearing house of this information specifically for use by educators.

- Beginning with the class of 2005, provide a meaningful Bay or stream outdoor experience for every school student in the watershed before graduation from high school.

- Continue to forge partnerships with the Departments of Education and institutions of higher learning in each jurisdiction to integrate information about the Chesapeake Bay and its watershed into school curricula and university programs.

- Provide students and teachers alike with opportunities to directly participate in local restoration and protection projects, and to support stewardship efforts in schools and on school property.

- By 2002, expand citizen outreach efforts to more specifically include minority populations by, for example, highlighting cultural and historical ties to the Bay, and providing multi-cultural and multilingual educational materials on stewardship activities and Bay information.

Community Engagement

- Jurisdictions will work with local governments to identify small watersheds where community-based actions are essential to meeting Bay restoration goals—in particular wetlands, forested buffers, stream corridors and public access and work with local governments and community organizations to bring an appropriate range of Bay program resources to these communities.

- Enhance funding for locally-based programs that pursue restoration and protection projects that will assist in the achievement of the goals of this and past agreements.
- By 2001, develop and maintain a clearing house for information on local watershed restoration efforts, including financial and technical assistance.

- By 2002, each signatory jurisdiction will offer easily-accessible information suitable for analyzing environmental conditions at a small watershed scale.

- Strengthen the Chesapeake Bay Program's ability to incorporate local governments into the policy decision making process. By 2001, complete a revaluation of the Local Government Participation Action Plan and make necessary changes in Bay program and jurisdictional functions based upon the reevaluation.

- Improve methods of communication with and among local governments on Bay issues and provide adequate opportunities for discussion of key issues.

- By 2001, identify community watershed organizations and partnerships. Assist in establishing new organizations and partnerships where interest exists. These partners will be important to successful watershed management efforts in distributing information to the public, and engaging the public in the Bay restoration and preservation effort.

- By 2005, identify specific actions to address the challenges of communities where historically poor water quality and environmental conditions have contributed to disproportional health, economic or social impacts.

Government by Example

- By 2002, each signatory will put in place processes to:

  1. Ensure that all properties owned, managed or leased by the signatories are developed, redeveloped and used in a manner consistent with all relevant goals, commitments and guidance of this Agreement.

  2. Ensure that the design and construction of signatory-funded development and redevelopment projects are consistent with all relevant goals, commitments and guidance of this Agreement.

- Expand the use of clean vehicle technologies and fuels on the basis of emission reductions, so that a significantly greater percentage of each signatory government's fleet of vehicles use some form of clean technology.

- By 2001, develop an Executive Council Directive to address stormwater management to control nutrient, sediment and chemical contaminant runoff from state, federal and District owned land.

Partnerships

- Strengthen partnerships with Delaware, New York and West Virginia by promoting communication and by seeking agreements on issues of mutual concern.

- Work with non-signatory Bay states to establish links with community-based organizations through out the Bay watershed.

BY THIS AGREEMENT, we rededicate ourselves to the restoration and protection of the ecological integrity, productivity and beneficial uses of the Chesapeake Bay system. We reaffirm our commitment to previously-adopted Chesapeake Bay Agreements and their supporting policies. We agree to report annually to the citizens on the state of the Bay and consider any additional actions necessary.

DATE June 28, 2000

FOR THE COMMONWEALTH OF VIRGINIA /s/

FOR THE STATE OF MARYLAND /s/

FOR THE COMMONWEALTH OF PENNSYLVANIA /s/

FOR THE DISTRICT OF COLUMBIA /s/

FOR THE UNITED STATES
OF AMERICA _____ /s/

FOR THE CHESAPEAKE BAY
COMMISSION _____ /s/

Chesapeake Bay Program

1983 Chesapeake Bay Agreement

We recognize that the findings of the Chesapeake Bay Program have shown an historical decline in the living resources of the Chesapeake Bay and that a cooperative approach is needed among the Environmental Protection Agency (EPA), the State of Maryland, the Commonwealths of Pennsylvania and Virginia, and the District of Columbia (the States) to fully address the extent, complexity, and sources of pollutants entering the Bay. We further recognize that EPA and the States share the responsibility for management decisions and resources regarding the high priority issues of the Chesapeake Bay.

Accordingly, the States and EPA agree to the following actions:

1. A Chesapeake Executive Council will be established which will meet at least twice yearly to assess and oversee the implementation of coordinated plans to improve and protect the water quality and living resources of the Chesapeake Bay estuarine systems. The Council will consist of the appropriate Cabinet designees of the Governors and the Mayor of the District of Columbia and the Regional Administrator of EPA. The Council will be initially chaired by EPA and will report annually to signatories of this Agreement

2. The Chesapeake Executive Council will establish an implementation committee of agency representatives who will meet as needed to coordinate technical matters and to coordinate the development and

evaluation of management plans. The Council may appoint such ex officio nonvoting members as deemed appropriate.

3. A liaison office for Chesapeake Bay activities will be established at EPA's Central Regional Laboratory in Annapolis, Maryland, to advise and support the Council and committee.

DATE: December 9, 1983

SIGNERS:

For the Commonwealth of Virginia	Charles S. Robb, Governor
For the State of Maryland	Harry Hughes, Governor
For the Commonwealth of Pennsylvania	Richard Thornburgh, Governor
For the District of Columbia	Marion Barry, Mayor
For the United States of America	William Ruckleshaus, Administrator, Environmental Protection Agency

1987 CHESAPEAKE BAY AGREEMENT

THE CHESAPEAKE BAY IS A NATIONAL TREASURE and a resource of worldwide significance. Its ecological, economic, and cultural importance are felt far beyond its waters and the communities that line its shores. Man's use and abuse of its bounty, however, together with the continued growth and development of population in its watershed, have taken a toll on the Bay system. In recent decades, the Bay has suffered serious declines in quality and productivity. ◊ *REPRESENTING* the Federal government and the States which surround the Chesapeake Bay, we acknowledge our stake in the resources of the Bay and accept our share of responsibility for its current condition. We are determined that this decline will be reversed. In response, all of our jurisdictions have embarked on ambitious programs to protect our shared resource and restore it to a more productive state. ◊ *IN* 1980, the legislatures of Virginia and Maryland established the Chesapeake Bay Commission to coordinate interstate planning and programs from a legislative perspective. In 1985, Pennsylvania joined the Commission. And, in 1983, Virginia, Maryland, Pennsylvania, the District of Columbia, the U.S. Environmental Protection Agency and the Chesapeake Bay Commission formally agreed to a cooperative approach to this undertaking and established specific mechanisms for its coordination. Since 1983, our joint commitment has carried us to new levels of governmental cooperation and scientific understanding. It has formed a firm base for the future success of this long-term program. The extent and complexity of our task now call for an expanded and refined agreement to guide our efforts toward the twenty-first century. ◊ *RECOGNIZING* that the Chesapeake Bay's importance transcends regional boundaries, we commit to managing the Chesapeake Bay as an integrated ecosystem and pledge our best efforts to achieve the goals in this Agreement. We propose a series of objectives that will

establish a policy and institutional framework for continued cooperative efforts to restore and protect Chesapeake Bay. We further commit to specific actions to achieve those objectives. The implementation of these commitments will be reviewed annually and additional commitments developed as needed.

GOALS AND PRIORITY COMMITMENTS

THIS NEW AGREEMENT CONTAINS Goals and Priority Commitments for Living Resources; Water Quality; Population Growth and Development; Public Information, Education and Participation; Public Access; and Governance. ◊ The parties to this 1987 Agreement are the U.S. Environmental Protection Agency representing the Federal government, the District of Columbia, the State of Maryland and the Commonwealths of Pennsylvania and Virginia (hereinafter the "States") and the Chesapeake Bay Commission. This Agreement may be amended and attachments added in the future by unanimous action of the Chesapeake Executive Council.

LIVING RESOURCES

GOAL: *PROVIDE FOR THE RESTORATION AND PROTECTION OF THE LIVING RESOURCES, THEIR HABITATS AND ECOLOGICAL RELATIONSHIPS.* The productivity, diversity and abundance of living resources are the best ultimate measures of the Chesapeake Bay's condition. These living resources are the main focus of the restoration and protection effort. Some species of shellfish and finfish are of immense commercial and recreational value to man. Others are valuable because they are part of the vast array of plant and animal life that make up the Chesapeake Bay ecosystem on which all species depend. We recognize that the entire natural system must be healthy and productive. We will determine the essential elements of habitat and environmental quality

necessary to support living resources and will see that these conditions are attained and maintained. We will also manage the harvest of and monitor populations of commercially, recreationally and ecologically valuable species to ensure sustained, viable stocks. We recognize that to be successful, these actions must be carried out in an integrated and coordinated manner across the whole Bay system.

OBJECTIVES:

◊ Restore, enhance, protect and manage submerged aquatic vegetation.

◊ Protect, enhance and restore wetlands, coastal sand dunes, forest buffers and other shoreline and riverline systems important to water quality and habitat.

◊ Conserve soil resources and reduce erosion and sedimentation to protect Bay habitat.

◊ Maintain freshwater flow regimes necessary to sustain estuarine habitats, including, where appropriate, establishing minimum in-stream flows.

◊ Develop compatible Bay-wide stock assessment programs.

◊ Develop Bay-wide fisheries management strategies and develop complementary state programs and plans to protect and restore the finfish and shellfish stocks of the Bay, especially the freshwater and estuarine spawners.

◊ Provide for the restoration of shellfish stocks in the Bay, especially the abundance of commercially important species.

◊ Restore, enhance and protect waterfowl and wildlife.

COMMITMENT:

TO ACHIEVE THIS GOAL WE AGREE:

◊ by *January 1988,* to develop and adopt guidelines for the protection of water quality and habitat conditions necessary to support the living resources found in the Chesapeake Bay system, and to use these guidelines in the implementation of water quality and habitat protection programs.

◊ by *July 1988,* to develop, adopt and begin to implement a Bay-wide plan for the assessment of commercially, recreationally and selected ecologically valuable species.

◊ by *July 1988,* to adopt a schedule for the development of Bay-wide resource management strategies for commercially, recreationally and selected ecologically valuable species.

◊ by *July 1989,* to develop, adopt and begin to implement Bay-wide management plans for oysters, blue crabs and American Shad. Plans for other major commercially, recreationally and ecologically valuable species should be initiated by 1990.

◊ by *December 1988,* to develop a Bay-wide policy for the protection of tidal and non-tidal wetlands.

◊ Provide for fish passage at dams, and remove stream blockages wherever necessary to restore natural passage for migratory fish.

WATER QUALITY

GOAL: *REDUCE AND CONTROL POINT AND NON-POINT SOURCES OF POLLUTION TO ATTAIN THE WATER QUALITY CONDITION NECESSARY TO SUPPORT THE LIVING RESOURCES OF THE BAY.* The improvement and maintenance of water quality are the single most critical elements in the over-all restoration and protection of the Chesapeake Bay. Water is the medium in which all living resources of the bay live, and their ability to survive and flourish is directly dependent on it. ◊ To ensure the productivity of the living resources of the Bay, we must clearly establish the water quality conditions they require and must then attain and maintain those conditions. Foremost, we must improve or maintain dissolved oxygen concentrations in the Bay and its tributaries through a continued and expanded commitment to the reduction of nutrients from both point and nonpoint sources. We must do the same for toxics and conventional pollutants. To be effective, we will develop basin-wide implementation plans for the control and reduction of pollutants which are based on our best understanding (including that derived from modeling) of the Bay and its tributaries as an integrated system.

OBJECTIVES:

◊ Provide timely construction and maintenance of public and private sewerage facilities to assure control of pollutant discharges.

◊ Reduce the discharge of untreated or inadequately treated sewage into Bay waters from such sources as combined sewer overflows, leaking sewage systems, and failing septic systems.

◊ Evaluate and institute, where appropriate, alternative technologies for point source pollution control, such as biological nutrient removal and

land application of effluent to reduce pollution loads in a cost-effective manner.

◊ Establish and enforce pollutant limitations to ensure compliance with water quality laws.

◊ Reduce the levels of nonpoint sources of pollution.

◊ Reduce sedimentation by strengthening enforcement of existing control regulations.

◊ Eliminate pollutant discharges from recreational boats.

◊ Identify and control toxic discharges to the Bay system, including metals and toxic organics, to protect water quality, aquatic resources and human health through implementation and enforcement of the states' National Pollutant Discharge Elimination System permit programs and other programs.

◊ Reduce chlorine discharges in critical finfish and shellfish areas. Minimize water pollution incidents and provide adequate response to pollutant spills.

◊ Manage sewage sludge, dredged spoil and hazardous wastes to protect the Bay system.

◊ Manage groundwater to protect the water quality of the Bay.

◊ Quantify the impacts and identify the sources of atmospheric inputs on the Bay system.

COMMITMENT:

TO ACHIEVE THIS GOAL WE AGREE:

◊ by *July 1988,* to develop, adopt and begin implementation of a basin-wide strategy to equitably achieve by the year 2000 at least a 40 percent reduction of nitrogen and phosphorus entering the main stem of the Chesapeake Bay. The strategy should be based on agreed upon 1985 point source loads and on nonpoint loads in an average rainfall year.

◊ by *December 1991,* to re-evaluate the 40 percent reduction target based on the results of modeling, research, monitoring and other information available at that time.

◊ by *December 1988,* to develop, adopt and begin implementation of a basin-wide strategy to achieve a reduction of toxics consistent with the Water Quality Act of 1987 which will ensure protection of human health and living resources. The strategy will cover both point and nonpoint sources, monitoring protocols, enforcement of pretreatment regulations and methods for dealing with in-place toxic sediments where necessary.

◊ by *July 1988,* to develop and adopt, as required by the Water Quality Act of 1987, a basin-wide implementation strategy for the management and control of conventional pollutants entering the Chesapeake Bay system from point and nonpoint sources.

◊ by *July 1988,* the Environmental Protection Agency, acting for the federal government, will develop, adopt and begin implementation of a strategy for the control and reduction of point and

nonpoint sources of nutrient, toxic and conventional pollution from all federal facilities.

POPULATION GROWTH AND DEVELOPMENT

GOAL: *PLAN FOR AND MANAGE THE ADVERSE ENVIRONMENTAL EFFECTS OF HUMAN POPULATION GROWTH AND LAND DEVELOPMENT IN THE CHESAPEAKE BAY WATERSHED.* There is a clear correlation between population growth and associated development and environmental degradation in the Chesapeake Bay system. Enhancing, or even maintaining, the quality of the Bay while accommodating growth will fre-quently involve difficult decisions and restrictions and will require continued and enhanced commitment to proper development standards. The states and the federal government will assert the full measure of their authority to mitigate the potential adverse effects of continued growth. ◊ Local jurisdictions have been delegated authority over many decisions regarding growth and development which have both direct and indirect effects on the Chesapeake Bay system and its living resources. The role of local governments in the restoration and protection effort will be given proper recognition and support through state and federal resources. ◊ States will engage in an active partnership with local governments to establish policy guidelines to manage growth and development.

OBJECTIVES:

◊ Designate a state-level office responsible for ensuring consistency with this Agreement among the agencies responsible for comprehensive oversight of development activity, including infrastructure planning, capital budgets, land preservation and waste management activities.

◊ Provide local governments with financial and technical assistance to continue and expand their management efforts.

◊ Consult with local government representatives in the development of Chesapeake Bay restoration and protection plans and programs.

◊ Identify and give public recognition to innovative and otherwise noteworthy examples of local government restoration and protection-related programs.

◊ Assure that government development projects meet all environmental requirements.

◊ Promote, among local, state and federal governments, and the private sector, the use of innovative techniques to avoid and, where necessary, mitigate the adverse impacts of growth.

COMMITMENT:

TO ACHIEVE THIS GOAL WE AGREE:

◊ to commission a panel of experts to report, by *December 1988,* on anticipated population growth and land development patterns in the Bay region through the year 2020, the infrastructure requirements necessary to serve growth and development, environmental programs needed to improve Bay resources while accommodating growth, alternative means of managing and directing growth and alternative mechanisms for financing governmental services and environmental controls. The panel of experts will consist of twelve members: three each from Virginia, Maryland and Pennsylvania, and one each from the District of Columbia, Environmental

Protection Agency and the Chesapeake Bay Commission.

◊ by *January 1989,* to adopt development policies and guidelines designed to reduce adverse impacts on the water quality and living resources of the Bay, including minimum best management practices for development and to cooperatively assist local governments in evaluating land-use and development decisions within their purview, consistent with the policies and guidelines.

◊ to evaluate state and federal development projects in light of their potential impacts on the water quality and living resources of the Chesapeake Bay, and design and carry out each state and federal development project so as to serve as a model for the private sector in terms of land-use practices.

◊ by *December 1988,* to develop a strategy to provide incentives, technical assistance and guidance to local governments to actively encourage them to incorporate protection of tidal and non-tidal wetlands and fragile natural areas in their land-use planning, water and sewer planning, construction and other growth-related management processes.

GOAL: *PROMOTE GREATER UNDERSTANDING AMONG CITIZENS ABOUT THE CHESAPEAKE BAY SYSTEM, THE PROBLEMS FACING IT AND POLICIES AND PROGRAMS DESIGNED TO HELP IT, AND TO FOSTER INDIVIDUAL RESPONSIBILITY AND STEWARDSHIP OF THE BAY'S RESOURCES.*

GOAL: *PROVIDE INCREASED OPPORTUNITIES FOR CITIZENS TO PARTICIPATE IN DECISIONS AND PROGRAMS AFFECTING THE BAY.* The understanding and support of the general public and interest groups are

essential to sustaining the long-term commitment to the restoration and protection of the Chesapeake Bay system and its living resources. Citizens must have opportunities to learn about that system and associated management policies and programs and must be given opportunities to contribute ideas about how best to manage that natural system.

OBJECTIVES:

- ◊ Provide timely information on the progress of the restoration program.
- ◊ Assure a continuing process of public input and participation in policy decisions affecting the Bay.
- ◊ Enhance Bay-oriented education opportunities to increase public awareness and understanding of the Bay system.
- ◊ Provide curricula and field experiences for students.
- ◊ Promote opportunities to involve citizens directly in Bay restoration efforts.
- ◊ Coordinate the production and distribution of Bay information and education materials.

COMMITMENT:

TO ACHIEVE THESE COALS WE AGREE:

- ◊ to conduct coordinated education and information programs to inform the general public, local governments, business, students, community associations and others of their roles, responsibilities and opportunities in the restoration and protection effort, and to promote

public involvement in the management and decision-making process.

◊ to provide for public review and comment on all implementation plans developed pursuant to this agreement.

◊ by *March 1988*, to develop state and federal communication plans for public information, education and participation, and by *May 1988*, to develop a unified, Bay-wide communication plan.

◊ to promote Chesapeake Bay restoration efforts by establishing an annual Bay-wide series of Chesapeake Bay Watershed Awareness events, to include a Governor's Cup Fishing Tournament.

PUBLIC ACCESS

GOAL: *PROMOTE INCREASED OPPORTUNITIES FOR PUBLIC APPRECIATION AND ENJOYMENT OF THE BAY AND ITS TRIBUTARIES.* Interest in and commitment to the Chesapeake Bay and its tributaries are greatly affected by personal contact with that natural system. Consequently, improved opportunities for access to the shores and waters of the system are essential if public awareness and support are to be maintained and increased.

OBJECTIVES:

◊ Improve and maintain access to the Bay including public beaches, parks and forested lands.

◊ Improve opportunities for recreational and commercial fishing.

◊ Secure shoreline acreage to maintain open space and provide opportunities for passive recreation.

◊ Secure necessary acreage to protect unique habitat and environmentally sensitive areas.

COMMITMENT:

TO ACHIEVE THIS GOAL WE AGREE:

◊ to intensify our efforts to improve and expand public access opportunities being made available by the federal government, the states, and local governments, by developing a strategy, which includes an inventory of current access opportunities by *July 1988,* which targets state and federal actions to secure additional tidal shorefront acres by *December 1990* along the Bay and its tributaries.

◊ by *December 1988,* to prepare a comprehensive guide to access facilities and the natural resource system for the tidal Chesapeake Bay.

GOVERNANCE

GOAL: *SUPPORT AND ENHANCE THE PRESENT COMPREHENSIVE, COOPERATIVE AND COORDINATED APPROACH TOWARD MANAGEMENT OF THE CHESAPEAKE BAY SYSTEM.*

GOAL: *PROVIDE FOR CONTINUITY OF MANAGEMENT EFFORTS AND PERPETUATION OF COMMITMENTS NECESSARY TO ENSURE LONG-TERM RESULTS.* The cooperation necessary to sustain an effective Chesapeake Bay restoration and protection effort requires a formal working arrangement involving the states and the federal government. That institutional arrangement must allow for and promote voluntary individual actions coordinated within a well-defined context of the individual responsibilities and authorities of each state and the federal government. It must also

ensure that actions which require a concerted, Bay-wide approach be addressed in common and without duplication. One of the principal functions of the coordinating institution is to develop strategic plans and oversee their implementation, based on advice from the public, from the scientific community and from user groups. ◊ In addition, the coordinating body must exert leadership to marshal public support, and it must be accountable for progress made under the terms of this agreement. The coordinating body will continue to be called the Chesapeake Executive Council. The Chesapeake Executive Council shall be comprised of the Governors, the Mayor of the District of Columbia, the Administrator of the Environmental Protection Agency and the Chairman of the Chesapeake Bay Commission. The chairmanship of the Council shall rotate annually as determined by the Council. The term of the Chairman shall be one year. The Administrator of the Environmental Protection Agency shall represent the federal government and the Chairman of the Chesapeake Bay Commission shall represent its members.

OBJECTIVES:

◊ Continue to demonstrate strong, regional leadership by convening an annual public meeting of the Chesapeake Executive Council.

◊ Continue to support the Chesapeake Executive Council and provide for technical and public policy advice by maintaining strong advisory committees.

◊ Coordinate Bay management activities and develop and maintain effective mechanisms for accountability.

◊ The Chesapeake Bay Liaison Office shall provide staff support to the Chesapeake Executive Council by providing analyses and data management, and by generating reports related to the overall

program. The Implementation Committee shall provide guidance to the CBLO Director in all matters relating to support for the Council and their supporting committees, subcommittees and work groups including the development of all plans and other documents associated with the Council.

◊ Examine the feasibility of joint funding support of the Chesapeake Bay Liaison Office.

◊ Track and evaluate activities which may affect estuarine water quality and resources and report at least annually.

◊ Develop and maintain a coordinated Chesapeake Bay data management system.

◊ Continue to implement a coordinated Bay-wide monitoring system and to develop a Bay-wide living resources monitoring system.

◊ Develop and implement a coordinated Bay-wide research program.

COMMITMENT:

TO ACHIEVE THESE GOALS WE AGREE:

◊ to develop an annual Chesapeake Bay work plan endorsed by the Chesapeake Executive Council.

◊ to continue to support Bay-wide environmental monitoring and research to provide the technical and scientific information necessary to support management decisions.

◊ to strengthen the Chesapeake Bay Liaison Office by assigning, as appropriate, staff persons from

each jurisdiction and from participating federal agencies to assist with the technical support functions of that office.

◊ by *July 1988,* to develop and adopt a comprehensive research plan to be evaluated and updated annually to address the technical needs of the Chesapeake Bay Program.

◊ by *July 1988,* develop a Bay-wide monitoring plan for selected commercially, recreationally and ecologically valuable species.

◊ by *March 1988,* to establish a local government advisory committee to the Chesapeake Executive Council and charge that committee to develop a strategy for local government participation in the Bay program.

◊ to consider and review the feasibility of establishing an independent Chesapeake Bay Executive Board.

◊ by *July 1988,* the Environmental Protection Agency, acting for the federal government, will develop, a coordinated, federal agency workplan which identifies specific federal programs to be integrated into a coordinated federal effort to support the restoration of the Chesapeake Bay.

By *THIS AGREEMENT,* we reaffirm our commitment to restore and protect the ecological integrity, productivity and beneficial uses of the Chesapeake Bay system. We agree to report in *January 1989* on progress made in fulfilling the commitments in this agreement, and to consider at that time additional commitments. The implementation strategies which will be developed pursuant to this agreement will be appended as annexes,

and annual reports will include an accounting of progress made on each strategy.

December 15, 1987
(Date)

FOR THE COMMONWEALTH OF VIRGINIA /s/

FOR THE STATE OF MARYLAND /s/

FOR THE COMMONWEALTH OF PENNSYLVANIA /s/

FOR THE UNITED STATES OF AMERICA /s/

FOR THE DISTRICT OF COLUMBIA /s/

FOR THE CHESAPEAKE BAY COMMISSION /s/

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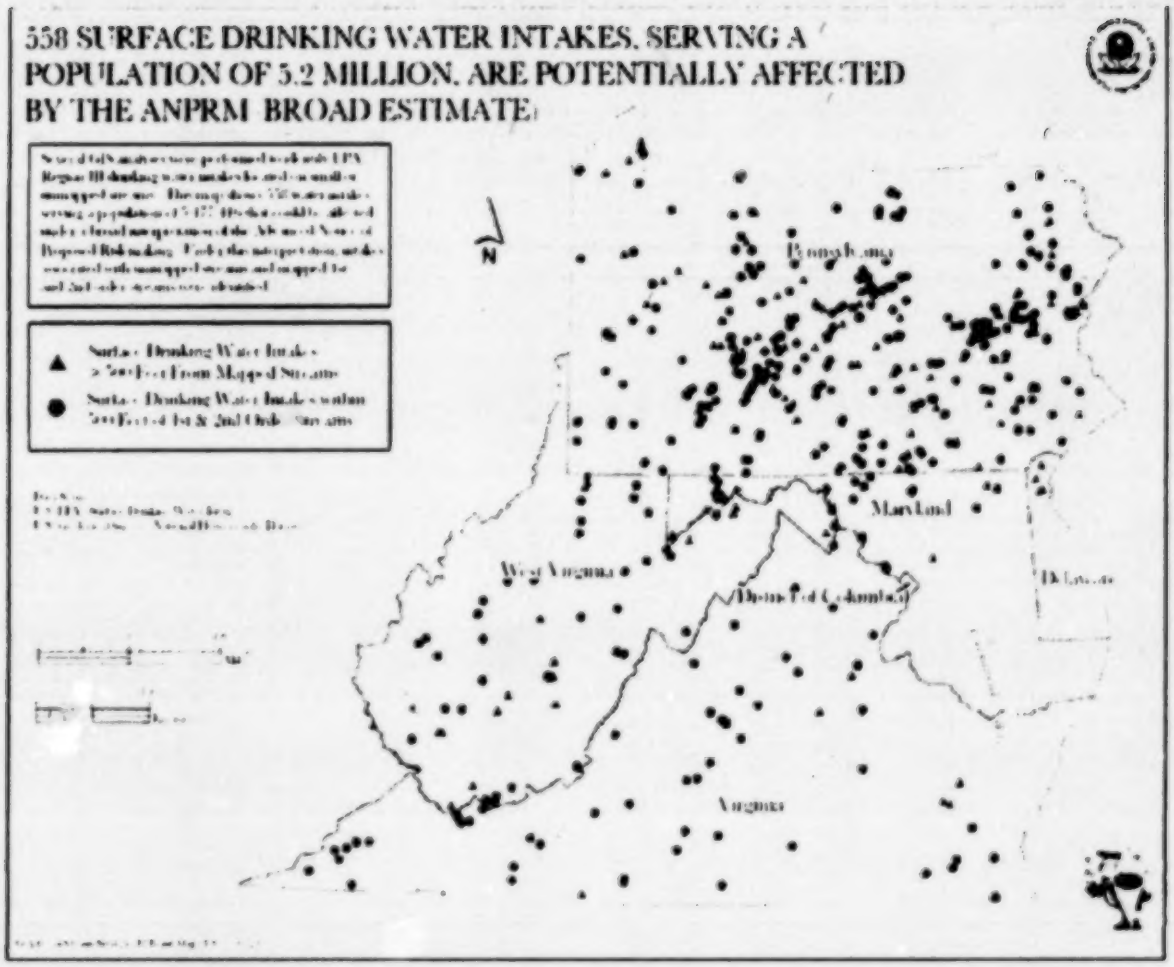
Map produced by the U.S. Fish and Wildlife Service and the USDA Soil Conservation Service

A typical perennial headwater stream in summer

Photo by Maryland Department of the Environment
http://www.mde.state.md.us/Programs/WaterPrograms/Wetlands_Waterways/about_wetlands/photos.asp


558 SURFACE DRINKING WATER INTAKES, SERVING A POPULATION OF 5.2 MILLION, ARE POTENTIALLY AFFECTED BY THE ANPRM BROAD ESTIMATE
N
Pennsylvania
Maryland
West Virginia
Virginia

Findings in the Mid-Atlantic Region Concerning Implications for Clean Water Act Jurisdiction for Various Interpretations of SWANCC, page 10

MEMORANDUM OF UNDERSTANDING

AMONG

the State of Delaware,
the District of Columbia,
the State of Maryland,
the State of New York,
the Commonwealth of Pennsylvania,
the Commonwealth of Virginia,
the State of West Virginia,
and the United States
Environmental Protection Agency

REGARDING

Cooperative Efforts for the Protection of the Chesapeake Bay and Its Rivers

WHEREAS, the Chesapeake Bay is a National Treasure for which we are responsible, due to our stewardship of the 64,000 square miles of land in its watershed, and the 111,000 miles of creeks, streams and rivers which run through our jurisdictions and ultimately into its waters; and,

WHEREAS, over the years the Chesapeake Bay's remarkable ecosystem has been impaired by the excess of nutrients and sediments flowing into it through its tributaries; and,

WHEREAS, the Chesapeake Bay Program, an internationally-recognized intergovernmental effort has made measurable strides toward the restoration of the Bay and its living resources; and

WHEREAS, that effort has been notable for its reliance on cooperative and consensus-based approaches for its greatest successes; and

WHEREAS, despite efforts to date, the tidal rivers and the Bay remain on the Clean Water Act list of impaired waters thereby requiring establishment of a total maximum daily load by May 2011 unless those waters meet applicable water quality standards by 2010; and

WHEREAS, we have developed a process, based on advanced science and data acquisition, which integrates the cooperative and statutory water quality programs applicable to the Chesapeake Bay and its tidal tributaries, and enhances through watershed-wide partnership the ability to restore the Bay's living resources and meet the necessary water quality standards;

NOW, THEREFORE, we, the undersigned executives representing the District, state and Federal entities with responsibility for the quality of the waters flowing into the Chesapeake Bay agree that we will:

- Work cooperatively to achieve the nutrient and sediment reduction targets that we agree are necessary to achieve the goals of a clean Chesapeake Bay by 2010, thereby allowing the Chesapeake and its tidal tributaries to be removed from the list of impaired waters.

- Provide for an inclusive, open and comprehensive public participation process.

- Collaborate on the development and use of innovative measures such as effluent trading, cooperative implementation mechanisms, and expanded interstate agreements to achieve the necessary reductions.

By this Agreement, we will work toward our goals in a spirit open to others, welcome new ideas, pursue fairness and equity, seek the most cost effective solutions, encourage collaborative approaches, and always be committed to the common goal of a healthy and productive Chesapeake Bay and its rivers. We agree to report annually to the citizens on the progress toward achieving the goals of this agreement.

FOR THE STATE OF DELAWARE /s/

FOR THE DISTRICT OF COLUMBIA /s/

FOR THE STATE OF MARYLAND /s/

FOR THE STATE OF NEW YORK /s/

FOR THE COMMONWEALTH OF PENNSYLVANIA /s/

FOR THE COMMONWEALTH OF VIRGINIA /s/

FOR THE STATE OF WEST VIRGINIA /s/

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY /s/